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(POPULAR TALKS)



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PUBLISHER'S NOTE

This is a book on the fundamental problems of Marxist philosophy. It expounds the subject of Marxism and shows its difference from other sciences. It reveals the fundamental issue of philosophy, and the meaning of matter and consciousness. It also deals with the basic laws of dialectics, i.e., those of the passage of quantitative into qualitative changes, of the unity and struggle of opposites, and of the negation of the negation. Much attention is given to dialectical categories, the theory of knowledge, the role of practice, and the problems of truth.

The author stresses the practical value of dialectical materialism, and throws light on its laws and categories. Written in a lively style, the book is a must for anyone who begins to study Marxist philosophy.

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О. ЯХОТ

ЧТО ТАКОЕ ДИАЛЕКТИЧЕСКИЙ МАТЕРИАЛИЗМ

На английском языке

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FIRST TALK

THE SUBJECT MATTER OF MARXIST PHILOSOPHY

What is philosophy? People have the most varied opinions about it. "It is a most interesting, live and profound science," many will say. But others will retort: "I can get along without it." They believe they have no need of it. This view has not arisen by accident. For many centuries it was thought that philosophy was only for the élite, for slave-owners and the bourgeoisie. Thus the opinion arose that philosophy was something remote from ordinary life, difficult to understand and quite unnecessary. But let us think for a moment whether we can actually do without it.

Some of you will be very surprised, perhaps, if I say that throughout your conscious life you are guided by and adhere to a definite philosophy. But this is actually so. A person who lives in a particular society comes across hundreds and thousands of phenomena. He thinks about what is happening in his country and in others a long way off. He cannot help thinking about natural phenomena too, wanting to penetrate the "secrets" of the universe. When he reflects on such questions as where did the planets and stars come from, and the Earth and all that exists on it; what happens to people after death; what is happiness and what is the meaning of life, he is reflecting on philosophical questions, regardless of whether he is aware of doing so. And it is not a matter of idle curiosity. He comes up against such questions all the time and everywhere. Whatever answer he gives it will always have a definite philosophical meaning.

Here is an example. In the past, when peasants prayed for rain during a drought, it implied that they had a definite "idea" about such phenomena.

There is no need for me to show that that view was deeply mistaken. But when, in order to prevent the disastrous effects of drought, people construct irrigation works or till the soil in such a way as to preserve moisture, is it not obvious that they have their view about the rain and the world and what takes place in it? They realise that the phenomena of nature arise in a natural way without any need of divine aid. That is a true view of the world.

The phenomena of social and political life, too, can be looked at in different ways.

We are bound to draw the conclusion, therefore, that we can only understand what takes place around us if we are guided by a definite *world outlook, being the sum-total of views about life, the world as a whole, and individual phenomena and events.*

We need to have a general idea about the world, not in order to be passively acquainted with the events taking place in it, but in order to be able to influence them. Only the unity of knowledge and deep ideological conviction leads to the formation of an integral world outlook. The latter then plays a very important part in our lives.

Let us imagine that two persons have been invited to join a religious sect. One agrees but the other refuses. One is taken in by the false arguments of the preachers, but the other realises that it is all deception. They behave differently because they differ in their understanding of reality or, as it is called, in their conception of the world. One of them has come to realise that man is the maker of his own happiness. The other, however, has no such firm conviction and so he looks for aid to some super power. They look on life differently. One does so correctly, the other incorrectly, because the latter has not got a true view of the world or a correct world outlook.

It turns out that we have recourse to philosophy more often than is sometimes thought. It could not be otherwise. Lenin wrote: "A socialist requires a well-thought-out and firmly held world outlook, so that he may control the events and not the events him."*

In this connection, it may be asked: by studying physics, chemistry, biology, astronomy and history do we not obtain a

* Lenin, *Collected Works*, Vol. 8, p. 316.

scientific idea of the world, i.e., a true world outlook? Why must we study philosophy as well? It is true, of course, that we obtain definite knowledge by studying these sciences. But they do not give us an *integral* world outlook, that is, one with an inner unity.

A correct understanding of the world is necessary in everyday life and this is given us by the Marxist-Leninist world outlook, the theoretical basis of which is Marxist philosophy. What then is philosophy?

The word "philosophy" is derived from two Greek words: "phileein"—to love, and "sophia"—wisdom, knowledge. You will, of course, say that every science gives knowledge and in this sense is wisdom. In that case it might be said that every science is philosophy. But is this so?

It is true that every science gives knowledge but the nature of this knowledge differs. Each science gives us knowledge only of a particular sphere of reality: astronomy—of celestial bodies; biology—of plants, animals and man; history—of events in society. These sciences cannot give us knowledge of the whole of nature, of the world as a whole. Yet such knowledge is vitally necessary.

For instance, we often encounter general questions about the world. Was it "created", or has it existed eternally? Can nature develop naturally, i.e., without any intervention of mysterious, supernatural forces? The physicist knows, of course, that there is nothing supernatural in the field of his investigations. But this knowledge applies primarily to his own sphere of research. What is required, however, is knowledge that covers *all* natural phenomena *without exception,* and this the so-called *definite* sciences cannot give us. Such knowledge is given by philosophy. It alone poses the most general questions of the development of nature and society and attempts to solve them. That defines the subject matter of philosophy, i.e., the range of questions that it studies.

The subject matter of philosophy differs therefore from that of the definite sciences which deal with particular spheres of reality. What is this difference?

Physics, mathematics, biology and other sciences study definite laws, those governing the development of part of the phenomena of nature. Philosophy, however, studies the most general laws, those which govern not some part, but all the

phenomena of nature, society and thought. Hence *philosophy* can be defined as *the science of the most general laws of development of nature, society and thought.* Because of this it gives people a definite world outlook, an idea about the world around them. But why does this differ so much among different people?

The partisanship of philosophy

Children in some West German schools were asked to write an essay on the subject: "What I would do if I could do whatever I liked?" What were their answers? One wrote: "I would blow up schools all over the world." Another wrote: "I would drop bombs everywhere.... I would set fire to the house and I would jump into the river." And this is what children in Soviet schools wrote on the same subject: "I would free Negroes enslaved by the capitalists and factory owners," wrote one. "The first thing I would do would be to ban atom and hydrogen bombs," wrote another.

Why are the children's answers so different? In the first case they come from children brought up in a spirit of contempt for people and imbued with a bourgeois world outlook. In the second case they come from children taught by schools to love their country, and to uphold peace throughout the world. Soviet schools bring up children in the spirit of the communist world outlook.

Such questions as what is the meaning of life and what is happiness receive different answers in socialist and in bourgeois society. In the latter, where everything is bought and sold for money, happiness is primarily wealth. Many regard that as the meaning of life. Therein lie the roots of the philistine philosophy of the petty-minded individual. People in socialist society, however, reject this philistine philosophy. Their happiness lies in being respected by the people with whom they work, in being respected by the society for the sake of which they live. Their greatest happiness is to feel necessary to the collective, to their country, to the people who are working to build a new, happy life. In one of his early works, Marx wrote: "Experience exalts as the most happy he who has brought happiness to the greatest number of people."

Thus we see once again two approaches to the question, two world outlooks—the bourgeois and the proletarian.

If society is divided into hostile classes there cannot be any common, single world outlook. One class has one philosophy, and the other class another. This is quite understandable. The life and status of the proletariat and working people differ from those of the bourgeoisie and exploiters. They react differently to events taking place in the world, each has its own understanding of them. Hence they differ in their world outlook or philosophy. That of the proletariat is different from that of the bourgeoisie. There is no neutral philosophy, i.e., one which does not serve a particular class.

Philosophy, as Lenin teaches, is always of a partisan nature. That is to say, it defends partisan, class interests. Hence contending parties in philosophy are to be found in each historical period. *Materialsm* and *idealism* are such parties in philosophy.

Materialism and idealism

What is the meaning of these two concepts? Take a look at things and phenomena in the world. Some of them, such as a stone, a tree, a living organism, water, etc., we can touch with our hands, see with our eyes, weigh and measure, and so on. They exist outside and independently of man's consciousness. We perceive them by means of our sense organs—those of sight, hearing, touch, smell and taste. But there are also phenomena of a different kind, for example, our thoughts and wishes, which we cannot measure, weigh, see or hear. They exist in man's consciousness.

Material objects and phenomena are those which exist not in our consciousness, but outside it. They do not depend on human beings, they exist objectively, i.e., in reality. If man did not exist, these things would still exist. The other group of phenomena belong to consciousness. They are ideal phenomena. They include thoughts, feelings, desires, will. They do not exist outside and apart from man. As you see, one group of phenomena in its totality constitutes nature, matter, while the other constitutes consciousness, or mind.

Nature, matter, is also called being. What connection is there between material and mental phenomena? This is a question that faces us continually. In regard to all the phenomena in the world, we can put it in this way: which is primary, that is to say, which comes first, nature, matter or thought, reason, consciousness? Sometimes this question is put somewhat differently: does mind, consciousness, give

rise to nature, matter, or does nature, matter, being, give rise to mind, consciousness. This question is known as the *fundamental question of philosophy.* Different philosophers answer it in different ways.

Some of them say that matter is primary, initial, that it gives rise to mind, consciousness. Such philosophers are called *materialists,* since their starting point is that matter underlies all that exists. Others say that consciousness, mind, is primary and that matter, nature, is secondary, derivative. According to them, consciousness precedes matter, and nature arose from some sort of spiritual basis. Such philosophers are called *idealists*; they hold that underlying all that exists is idea, i.e., thought, spirit. These are the two camps into which philosophers are divided, that of the materialists and that of the idealists. They have opposed each other throughout the history of philosophy.

Hence, depending on how to tackle the fundamental question, the philosophers split into two groups. But the study and understanding of the world depends also on the *method* used by a particular philosopher to gain knowledge.

What is the method of studying reality?

The method by which the phenomena of reality are studied plays a very important part. This is in fact indicated by the word "method", which is derived from the Greek "methodos"—a road, direction. If we are on the right road we can reach our goal. If not, we shall go astray and not arrive where we should.

Chemistry, physics, astronomy and other sciences have their methods of investigation. It is essential to know, however, what should be the proper approach not to the individual phenomena of a particular branch of knowledge, but to nature as a whole, to all phenomena of the world around us. Here it is a question of world outlook. Imagine someone saying: "Why look for new crop rotation systems? Let us do just what our forefathers did." People would certainly reply that this is a wrong approach, that the soil and its structure have changed since those days. All sorts of machines for tilling the soil have been devised, so that a crop rotation system that was introduced, say, in the Middle Ages cannot satisfy us nowadays. We must, therefore, continually look for new ways of increasing the productivity of

our fields. Underlying every idea of the world is its method, its approach to the phenomena of nature. The first way of looking at the world is to regard it as something immutable, ossified. This is called the *"metaphysical* method"*. The second method regards objects and phenomena as developing and changing. This is the *dialectical** method.*

Which of these two methods is scientific? The metaphysical method assumes that the sun, mountains, rivers and seas at the present time are exactly as they were millions of years ago. It looks on phenomena in isolation, as unconnected with one another. This is the essence of the metaphysical method. Materialism in the past, which adhered to this method, came to be known as "metaphysical materialism".

The development of science in the nineteenth century increasingly contradicted this idea of the world. The first breach was due to the cosmological hypothesis of the German philosopher Kant and the French astronomer Laplace. They showed that the Earth and the solar system resulted from a long process of development of matter. Subsequently, geology, too, confirmed the idea of the evolution of the Earth. The view of the world as a connected whole that had arisen as the result of historical development was particularly brought into prominence by three great discoveries. The great English naturalist Charles Darwin showed that the species of animals and plants existing in the world today had not always looked as they do now. They came into being as the result of a long process of evolution. Secondly, scientists discovered that all animal and plant organisms are made up of the smallest units–cells–in which the complicated vital processes take place. In this way the basis was laid for a correct understanding of the evolution of organisms. Thirdly, scientists discovered the law of the conservation and transformation of energy. It was established that motion cannot

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* *Metaphysics*–from the Greek *"meta ta physika"*–after physics. This was the title Aristotle gave to the section of his work on philosophy devoted to speculative thought, following the section called "physics". Later the term metaphysics was applied to a method of cognition opposed to dialectics.

** *Dialectics*–from the Greek *"dialego"*–to converse, dispute. In antiquity it meant the art of arriving at the truth by discovering contradictions in the arguments of an opponent and overcoming them. Later it came to be applied to a method of apprehending reality.

arise out of nothing, just as it cannot disappear into nothing. The forms of motion pass into one another. Thus it was shown that matter in motion is eternal and indestructible. This was a great triumph for the theory of development.

Thus the development of science provided the prerequisites in the field of natural science that were necessary for the triumph of the new dialectical materialist view of the world elaborated by *Karl Marx* (1818-1883) and *Frederick Engels* (1820-1895).

The dialectical view of the world scored a succession of triumphs. It became increasingly difficult for metaphysics to deny the principle of development, an outward "recognition" of which became a characteristic feature of metaphysics in the nineteenth century. Basically, however, metaphysics always denies the principle of development, for it understands development as a process of simple repetition, without the emergence of anything new. It denies the internal source of development or sees it somewhere outside the developing things or phenomena–in a god, spirit, or idea. Dialectics and metaphysics are therefore incompatible.

Dialectics regards development as a process that results in real changes, where the old dies out and the new comes into being, where the course of events is not cyclical, but where new qualities of phenomena arise.

Metaphysics regards the world as an accumulation of accidental things and processes. Dialectics, on the other hand, regards the world as a single connected whole, and it studies these connections, separating those that are essential from those that are inessential, those that are fundamental from those that are accidental.

This will be dealt with in detail in the talks devoted to the laws and categories of materialist dialectics. You will see there that phenomena never exist in isolation but are always interconnected and interacting. The world cannot be understood if, like the metaphysicians, we regard phenomena as cut off from one another.

From what has been said it follows that *dialectics is the science of the most general laws of motion and development of nature, human society and thought, the science of the universal connection of all phenomena in the world.* For this reason it is the opposite of metaphysics.

Why the conflict between materialism and idealism is inevitable?

The conflict between materialism and idealism is evident in the approach to all root problems. What is their attitude towards religion? Engels said that the fundamental question of philosophy could be stated as follows: did God create the world or has it existed eternally? To this question materialists and idealists give diametrically opposite answers.

The idealists say that the world came into being when it was created by the idea, by thought. That the world did not exist until it was created by God is the view of religion. Obviously these two views are basically the same. Idealism has merely substituted the word "idea" for the word "God". Of course, idealism and religion are not identical; there is a certain difference between them. What they have in common is that both of them introduce an ideal, spiritual principle as the basis of everything that exists. Hence they are closely related. "Idealism is clericalism," Lenin wrote. It arises and exists as a basis for and justification of religion.

Materialism, on the other hand, teaches that matter, nature, has existed eternally. It has not had a creator. Such a conception of the world's development has no room for a supreme heavenly power, for God. There is no need for God; the development of the world has proceeded without his intervention. Thus materialism involves denial of any God and is inevitably bound up with atheism. A materialist is necessarily an atheist. Religious prejudices hinder people from reaching a correct materialist world outlook.

Materialism and idealism approach all other major problems, too, in opposite ways. We know that a society based on exploitation consists of hostile classes. What is the attitude to this, adopted by materialists and idealists? Superficially, it might seem that idealists write philosophical works that are remote from "worldly vanity", from the struggle of parties and classes. But in reality that is far from being the case. Consider, for example, the modern American philosopher William Vogt. He says that there are at present hundreds of millions of "redundant" people in the world. Hence, an atomic war is required to dispose of them. He lines up with those who want to unleash a sanguinary war.

Other idealist philosophers call for a crusade against Communists. In this way they help the capitalists to oppose

the progressive forces of society. There are philosophers who tell the working people not to take part in political activities. They claim that their theories are non-political, and say: "We have nothing to do with politics." At first glance, it might seem that these idealist philosophers stand aside from the struggle of classes and parties. But it is easy to see that this is only a cover for their real intentions. In reality, when these idealists talk of "impartiality" and of being "above parties", they are in effect saying to the working people: "Keep away from the struggle against capitalism, against poverty." And whom does that benefit if not the capitalists and exploiters? It turns out that idealism supports everything that is reactionary and obsolete, beginning with exploitation and ending with religion, clericalism.

In contrast to idealism, materialism expresses the interests of the revolutionary, progressive classes and opposes the reactionary obsolete classes. If idealism is the banner of the reactionary classes, materialism is the banner of the progressive, advanced classes. It should be borne in mind, however, that this proposition must not be oversimplified so as to imply that under all conditions idealists defend everything reactionary and obsolete, while materialists always express the interests of the progressive classes. Heraclitus, for instance, a materialist philosopher of the ancient world, defended the interests of the slave-owners, opposed Athenian democracy, and was even in favour of war. On the other hand, the contemporary English philosopher Bertrand Russell, despite the idealist nature of his philosophy, is an active peace supporter.

When we say that idealism expresses the interests of the obsolete, reactionary classes, whereas materialism expresses those of the progressive classes, we are referring to the basic historical tendency in the development of philosophy. In this respect it is actually found that when materialists take reality, real life, as the basis of their theories, they serve the advanced, progressive classes. On the other hand, when idealism in its theories distorts the truth, then, irrespective of the wishes of individual exponents of idealism, it serves the interests of the obsolete, reactionary classes. In this sense the conflict between materialism and idealism is an expression of the class struggle.

In this struggle it is impossible for philosophers to be neutral, to support neither of the contending sides or parties.

Lenin exposed those who asserted: "We are neither materialists nor idealists, we stand 'above' these parties." He called these philosophers "the despicable party of the middle", and he refuted their attempts to make out that the conflict between materialism and idealism was out-of-date and that therefore philosophers could no longer be divided into materialists and idealists. The modern revisionists* are particularly zealous supporters of this idea. They furiously attack the Marxist principle of the partisanship of philosophy, its thesis of an irreconcilable struggle between materialism and idealism, asserting that the differences between materialism and idealism are disappearing. The fallacy of such assertions is easily seen if it is borne in mind that bourgeois society consists of hostile classes engaged in a bitter struggle against each other. This struggle cannot cease. Nor can the struggle between materialism and idealism cease; it is derived from the class struggle.

Every philosophy, therefore, expresses definite class interests. How does this apply to Marxism?

What is Marxism and whose interests does it express?

The most outstanding event of the period when Marxism arose (in the forties of the nineteenth century) was that a new revolutionary class—the proletariat—made its appearance. The birth of the proletariat, of course, goes further back, but by the forties it had begun to act as a powerful revolutionary force. It was already loudly demanding its rights, as can be judged from the actions it undertook at the time. The first such large-scale actions of the proletariat were: in Britain the Chartist movement**, and in France the revolt of the Lyons weavers in the thirties. There was also a series of actions by the proletariat in Germany.

These actions were evidence of the immense power of the new rising class, the proletariat. The giant had awakened, but this was not yet enough for victory. This gigantic force had to be applied in the right way. The proletariat had to take the correct path. But what was the correct path?

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* Revisionism is a distortion of Marxism by revising its principal tenets so as to comply with the interests of the bourgeoisie.

** Chartism—the British workers' movement of 1836-48 aimed at securing political rights and improving the economic conditions of the working class.

One path that the proletariat could take was that of minor tussles with capitalism, unorganised spontaneous actions without a clear goal and leadership.

What did the proletariat lack that could give its struggle an organised character and enable it to obtain a clear view of the prospects ahead? A revolutionary theory—that is what the proletariat lacked at that time! Let us recall Lenin's words: "Without a revolutionary theory there can be no revolutionary movement." The proletariat wants to throw off the yoke of capitalist slavery. It aspires to create a new, socialist society, free from all exploitation. But the path to the accomplishment of that goal had to be found. Socialist theory had to be created. Marxism gave this theory to the proletariat and the working people.

Creating socialist theory as the world outlook of the proletariat meant creating a new theory, an organic unity of philosophy, political economy and scientific communism. There were, of course, various philosophical, economic and socialist theories in existence prior to Marxism. But, firstly, they never constituted an organic whole and, secondly, they did not express the interests of the proletariat and could not serve as a theoretical basis for its struggle for emancipation.

This must not be taken to imply that there were no progressive philosophical and economic systems or socialist theories before Marxism had appeared. In fact, as Lenin pointed out, the three component parts of Marxism have three corresponding sources: German classical philosophy, English classical political economy and French utopian socialism. The views of the creators of these theories were not truly scientific. Take, for instance, the theory of the French utopian socialists. A utopia is an imaginary paradise, an unrealisable fantasy. Such was the nature of their theory. They tried, for example, to persuade some factory owners to give their factories to the workers. No good came of this scheme. Their socialist theory, therefore, remained unrealisable.

A truly scientific theory was created for the proletariat by its great teachers, Marx and Engels, and is known as Marxism. *Marxism expresses the interests of the proletariat and is the latter's theoretical weapon.* It is an integral and harmonious system of philosophical, economic and socio-political views. Lenin pointed out that Marxism consists of three parts: philosophy, political economy and scientific communism.

Since we have already made clear the class basis of Marxism it is easy to realise that its basis can only be materialist philosophy.

The philosophy of Marxism is dialectical materialism

You have already seen that the idealist explanation of the world is wholly illusory, that it distorts what takes place in the world. The proletariat cannot have anything to do with such a philosophy. It wants to build a better life for all working people. It needs to study the world as it really is, without fantasies or distortions. Idealism cannot show the correct way here. But materialism studies the world as it really is. Marxism, too, proceeds from actual life, without any spurious addition. Therefore its theoretical foundation can only be materialist philosophy.

Materialism existed before Marxism appeared. This, however, was *metaphysical* materialism. Marx and Engels created a new theory–*dialectical* materialism. Marxism cannot accept the metaphysical method of approaching the world as something eternal and unchanging. Reality is eternally developing and changing. In its theories and practical activities Marxism reflects the changing character of life itself. By its very nature Marxism is a revolutionary theory. But bourgeois philosophers today cling to metaphysics, for they want to halt historical development and perpetuate the capitalist order of things. This is why it is materialist dialectics, i.e., the science of development, that is the Marxist method of studying and transforming reality.

Thus, *materialism and dialectics in their unity and inseparable connection constitute the theory and method of Marxism.* That is why the philosophy of Marxism is called *dialectical materialism.* It is a philosophical world outlook and at the same time a method. It serves as a compass and guiding star in the practical activities of the party of the proletariat.

Why Marxism is the compass and guiding star of the working people?

At one time sailors fixed their course by the stars. Hence the expression "guiding star". When the compass was invented it was used to show the direction to be taken. Marxist philosophy can be compared to a compass or a guiding star, for it shows the proletariat, the Communist Party and all working people the way to be taken in their practical activities. But a compass must be a good one or it may lead us astray. It is even more

important to have an accurate compass for a guide in the affairs of society. The famous Negro singer Paul Robeson relates that he once belonged to a students' society which had as its motto: "Philosophy is a guide to life." "But", says Robeson, "the philosophy taught in the university proved an unsuitable compass in life. . . . I searched for a way out of this blind alley but could not find it. Only when I became acquainted with the teachings of Marx and Lenin did I find the 'philosophical key' which has really guided my life."

Marxist philosophy can be said to be a compass, a guiding star, in the sense that in its practical activities the Communist Party is always guided by its revolutionary theory. For the Communist Party, Marxist philosophy is, in the full sense of the word, a guide to action. Here is an example. The first socialist revolution in history took place in Russia in 1917. It was at once faced with the important and difficult question of how to begin the building of socialism. In answering this question the Party was guided by one of the major points of Marxist theory, viz., that the decisive factor for a country's development is its economy. Socialism cannot be built if the country is inadequately provided with factories and if small-scale peasant farming prevails in the countryside. Guided by this, the correct way was found. Industrialisation, collectivisation of agriculture and abolition of the exploiting classes—such was the Soviet people's road to socialism. This road of socialist construction was laid down in the second Programme adopted by the Eighth Congress of the Communist Party in 1919.

The same thing applies to the present period, that of building communism. To the Soviet people fell the historic role of being the pioneers of communist construction, of blazing a new path of social development. Here, too, Marxist theory is the guide.

The seventeenth century English materialist Francis Bacon aptly compared correct theory to a lantern that lights up a dark road for a traveller. He likened a scientist unequipped with a correct theory to a traveller groping his way in the dark.

The Communist Party leads the Soviet people to communism by the sole correct road. The proof of this is seen in the historic decisions of the 22nd Congress of the C.P.S.U. To build communism, the material and technical basis for it has

first to be created. This implies the development of the country's economy, its industry and agriculture, ensuring the Soviet people with everything necessary for implementing the principle of communism: "From each according to his ability, to each according to his needs." This simple yet profound thesis underlies all the main sections of the new Programme adopted by the C.P.S.U. at its 22nd Congress in 1961. It is based wholly and completely on Marxist theory, which in this case is not so much a lantern as a powerful searchlight, beacon and compass.

What has been said above unmasks the revisionists who slanderously assert that Marxism is "out-of-date". Marxism is the powerful weapon of the Communist Party of the proletariat and all working people in the struggle for communism. Its appearance marked a true revolution in science.

A SHORT ACCOUNT OF PRE-MARXIST PHILOSOPHY. THE APPEARANCE OF MARXISM— A REVOLUTION IN PHILOSOPHY

To understand the nature of the revolution achieved by Marxism in social science it is necessary, at least briefly, to know something of the main stages of the development of philosophy, for Marxism, as Lenin pointed out, did not arise somewhere off the high road of world philosophical thought. It inherited all the best elements of the philosophy that preceded it as well as the achievements of other social sciences.

The Conflict Between Materialism and Idealism in Slave Society

The first attempts to conceive the world as a whole date back to the slave societies in the ancient East–in China, India and Egypt. These were the first philosophical theories. Since the world can be conceived either from the materialist or from the idealist standpoints, from the very outset there was a bitter conflict between these two trends, which, as we have shown, expresses diametrically opposite interests. This conflict has continued during every stage in the historical development of philosophy.

In the period of slave society philosophy reached the highest development in ancient Greece, where primitive spontaneous materialism, as Engels called it, arose as early as the sixth century B.C. Its fathers considered that the underlying principle of the world was something of a material nature. Thus, the philosopher *Thales* (ca. 624-547 B.C.) regarded water as this material "basis", whereas his pupil *Anaximenes* (sixth century B.C.) considered it to be air.

These views were naive but essentially correct in so far as these philosophers maintained that the world had not been created by some divine power but had a natural, material basis.

This view was further developed by the philosopher *Heraclitus* (ca. 540-480 B.C.), who wrote that the world was created neither by God nor by man, but has always existed and will exist eternally. For Heraclitus, the "basis" of everything existing was "eternally living fire". He wrote: "The world, an entity out of everything, was created by none of the Gods or men, but was, is, and will be eternally living fire, regularly becoming ignited and regularly becoming extinguished." Lenin appraised this thesis of Heraclitus as a very good exposition of the principles of dialectical materialism.*

Heraclitus is one of the creators of the dialectical method. It was he who made the famous statement: "Everything flows, everything changes." The world does not stand still, it eternally develops. Heraclitus made the brilliant guess that the struggle of opposites was the source of the development of the world. The founders of Marxism-Leninism attached high value to the ideas of Heraclitus.

The greatest achievement of ancient materialism was the philosophy of *Democritus* (ca. 460-370 B.C.), whose theory we shall meet with more than once in this book. He propounded the remarkable theory of the atomic structure of matter, which had to wait two and a half thousand years before it received scientific and practical confirmation.

According to Democritus, the basis of everything existing in the world is atoms and void (empty space). He conceived the atoms as being indivisible material particles, qualitatively alike, but distinguished from one another by their form. They are in eternal motion in the void and unite or disunite, giving rise in this way to all the varied phenomena of the world. Everything in the world arises by natural means as the result of the law-governed movement of the atoms.

According to Democritus, "nothing arises without cause, but everything arises on some basis and by virtue of necessity". Such a formulation excludes the possibility of any supernatural, divine power in the world: everything has its material cause. It is not surprising, therefore, that the philosophy of

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* See Lenin, *Collected Works*, Vol. 38, p. 349.

Democritus aroused the fury of the idealists and, in particular, of the ancient Greek philosopher *Plato* (427-347 B.C.). Lenin pointed out that the struggle between materialism and idealism throughout the history of philosophy could be regarded as a struggle between "the line of Democritus" (materialism) and "the line of Plato" (idealism).

Plato divided the world into the world of "eternal essences" –ideas–and the world of "changing things". According to his views, ideas are "true being", something primary. All the things around us are merely "shadows of ideas". He drew the following comparison to express this idea. A hermit who lives in a cave cannot see what is happening outside in the open air, where the sun shines and people are moving about. He can only see their shadows on the wall of the cave. So it is with people living in the world. Like the hermit, they know only shadows. The things that they encounter are only shadows of the "real" world, the world of ideas. As you can see for yourself, Lenin was quite justified in remarking that this was highly nonsensical mysticism.*

Plato laid the basis for the philosophy known as *objective idealism.* To understand the meaning of this term, it should be remembered that "object" in general signifies something existing outside man, apart from his consciousness, and on which he acts. Materialism regards the world as existing objectively, as an objective reality. Plato's variety of idealism asserts that the idea exists objectively.

Plato fiercely attacked the materialists, especially Democritus. He declared that the works of Democritus were "impious" and demanded that their author be put to death.

Plato's social and political ideas, too, were just as reactionary. He regarded an aristocratic republic based on slavery as an "ideal state". In his view, slavery was natural and necessary: God ordained that some should be slaves and others masters, slave-owners. Hence it is easy to understand that reactionaries in all ages have referred to Plato in support of their ideas.

One of the most outstanding Greek philosophers was *Aristotle* (384-322 B.C.). He was a pupil of Plato's but he

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* Mysticism (from the Greek "*mystikos*"–mystery)–religious belief in direct communion of man with God. It is generally used to denote views based on something mysterious, inexplicable.

sharply criticised the reactionary part of his teacher's philosophy—the theory of "ideas". Thus he made an important contribution to the criticism of idealism, putting forward a series of weighty arguments against it. To Plato's view that the essence of things lies in "ideas", Aristotle correctly replies: essence cannot lie somewhere outside things, it is in the things themselves. Philosophy must therefore study the world of real things and reject Plato's "mysticism of ideas".

Aristotle recognised the objective existence of things, of matter, but he looked on them as inert, i.e., devoid of activity. He considered "form" to be the active basis. Moreover, Aristotle asserted that there was a "form of all forms", a "prime motor", i.e., a final originating cause—God. Lenin pointed out that Aristotle wavered between materialism and idealism.

It is not possible in a short exposition to give a full account of the philosophers of ancient Greece and Rome, but it is important to grasp that ancient thinkers created the original form of materialist philosophy—spontaneous materialism and a naive dialectical approach to reality. Since science was then in its infancy and the scientific data available to the materialists were inadequate, their views as a rule could only be in the nature of inspired guesses. It was a naive but substantially correct view of the world.

Seventeenth and Eighteenth Century Materialism and Its Struggle Against Religion and Idealism

Slave society gave way to feudalism with its dominance of feudal lords and the Church. Philosophy during this period became the servant of theology. The materialist theories of the ancient thinkers were forgotten or distorted. A religious-idealist world outlook predominated. Despite the grip of the Church, philosophical thought developed in this period, too, although slowly. It was at this time that a number of materialist theories were put forward in China, India and the Arab countries. Beginning with the second half of the fifteenth century, philosophy began developing in close connection with natural science.

This applies especially to the 17th and 18th centuries, when metaphysical materialism became widespread. As Engels pointed out, metaphysical materialism was a result of the

development of natural science. To understand the nature of 17th and 18th century materialism, therefore, it is necessary to take note of a characteristic feature of the natural science of this period, which was that it regarded its main task to be the experimental investigation of *separate* things and phenomena. This was an important step forward compared with the ancient world in which science was not yet concerned with studying individual objects and phenomena. It had, however, its negative aspect, for such investigation accustomed scientists to ignore the connections existing between objects. The world came to be looked upon not as an integral developing whole, but as an aggregate of isolated things and phenomena. It is just this, as we said previously, that is the characteristic feature of the metaphysical method. The most highly developed science at that time was mechanics. Hence the materialists attempted to explain all the phenomena of nature by means of mechanics alone. Thus the very course of its development led natural science to adopt a metaphysical approach to natural phenomena. From natural science, as Engels pointed out, this method permeated philosophy.

Seventeenth century materialism

The first exponent of 17th-18th century materialism was the English philosopher *Francis Bacon* (1561-1626). He sharply criticised medieval philosophy because it was the servant of religion, which it tried to justify. Such philosophy, said Bacon, was as sterile as a vestal virgin who dedicates herself to God. True philosophy should study nature and draw its conclusions from the phenomena occurring in nature. In Bacon's exposition, Marx says, matter smiles on man with a poetically sensuous brilliance.

Bacon attached great importance to experiment. Criticising the medieval philosophers who rejected the experimental study of nature, he likened them to spiders spinning a web of abstract ideas divorced from real life. The true philosopher he compared to a bee that collects sweet nectar from the flowers and converts it into the honey of true reality. Bacon enunciated the simple, but for that period brilliant, idea that conclusions can be arrived at only on the basis of facts which have been collected and studied. Hence the phenomena of nature have to be studied by observation and experiment. He elaborated the empirical (i.e., experimental) method of studying reality, which proved of immense importance for

the subsequent development of science and philosophical thought.

An important 17th century materialist was the English philosopher *Hobbes* (1588-1679), whom Marx called the systematiser of Baconian materialism. The philosophy of Hobbes has the characteristic features of all mechanical materialism. Thus he compared all natural objects, including man, to machines. He recognised only mechanical motion, by means of which he explained sensation, perception, etc. We hear the sound of a bell because its motion sets up vibrations of the air and these in turn evoke motion in the ear and subsequently in the nerves. Everything takes place by consecutive transfers of motion as in the case of machines. He depicts even the state in the form of a monstrous machine, which by analogy with the Biblical sea monster he calls "Leviathan". We now know very well that it is by no means possible to explain everything in terms of mechanics, but at that time these views were progressive.

It is Hobbes' great merit that he drew atheist conclusions from his materialist views. He showed that the world, developing through material causes, has no need of a supernatural power. This was a step forward in comparison with Bacon's philosophy.

In France during this period the famous philosopher and mathematician, *Descartes* (1596-1650), was developing his philosophical theory. Descartes was a *dualist.* He maintained that two *independent* principles—matter and consciousness—formed the basis of the world. In explaining the phenomena of nature, Descartes is a materialist. In this sphere he recognises that there is no need of an external non-material power. "*Within* his physics," Marx wrote, "*matter* is the only *substance,* the only basis of being and of knowledge."* Everything in nature takes place on the basis of the motion of matter, which Descartes conceives as a simple displacement of bodies in space. This, as we have seen, is the standpoint of mechanical materialism. When, however, Descartes comes to explain consciousness, feelings and other mental phenomena, he is an idealist. Here he ascribes decisive significance to reason, divorced from nature.

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* Marx and Engels, *The Holy Family or Critique of Critical Critique,* Moscow, 1956, p. 169.

Descartes is the progenitor of *rationalism.* He regarded reason as the sole source of our knowledge. This was a one-sided view but at that time it had a progressive significance, since it exalted human reason as against religion, which preached blind subordination to the Church. This was of very great importance in a period when science was winning a place for itself in a desperate struggle against religion.

Among the foremost 17th century materialist philosophers is the eminent Dutch thinker *Spinoza* (1632-1677). Overcoming the dualism of Descartes, he taught that everything in the world has a single basis, a single substance as he calls it, viz., nature. It is eternal, not created and infinite.

Nature has no need of a supernatural power, for it develops on the basis of its own inherent laws. Spinoza expressed this by saying that the world is its own cause.

It is evident from this that Spinoza is not only a materialist, but a prominent atheist, for he showed that nature itself has the creative power which, according to the church, only God can possess. No wonder that in the 17th century the term "Spinozist" was equated with "atheist". Hence Spinoza's philosophy aroused the furious hatred of the Church. Spinoza himself was vilified and persecuted, but he courageously upheld his materialism and atheism.

French 18th century materialism

A very important stage in the development of materialism during the period under review was the *French materialism of the 18th century.* Its exponents were *Diderot* (1713-1784), *Holbach* (1723-1789) and *Helvétius* (1715-1771). On the eve of the French bourgeois revolution of 1789 this philosophy provided the revolutionary bourgeoisie with a theoretical weapon in the struggle against feudalism and its religious-idealist ideology. Engels wrote that the philosophical revolution in France was as it were an introduction to the political revolution, that the French materialists gave the young revolutionary bourgeoisie a symbol of faith and a theoretical banner in their struggle against absolutism and the Church. Their works were, as Lenin remarks, "the keen, vivacious and talented writings which wittily and openly attacked the prevailing clericalism."*

* Lenin, *Marx-Engels-Marxism,* p. 573.

Lenin regarded the writings of the French materialists as an arsenal of weapons and ammunition for the struggle against religious obscurantism.

The materialist philosophy of Diderot, Holbach and Helvétius marked a considerable advance compared with 17th century materialism. This is seen, above all, in the French materialists' conception of nature as a *unitary* system, developing in a natural way on the basis of its own laws. It is no accident that Holbach entitled his main work *The System of Nature.* "Nature," he writes, "is the cause of everything; it exists of itself; it will exist and operate eternally; it is its own cause; its motion is a necessary consequence of its necessary existence."

It was an important achievement of French materialism that it realised *the unity of matter and motion.* But by conceiving motion as no more than mechanical displacement in space and the laws of nature as perpetual and immutable, the French materialists abided by metaphysical materialism.

Russian 18th century materialism

The birth and development of Russian materialist philosophy is linked with the names of *Mikhail Lomonosov* (1711-1765) and *Alexander Radishchev* (1749-1802). The former is famous as one of the greatest savants—physicist, chemist, geologist and poet. The latter is famous, too, as a revolutionary and writer. Both made important contributions to the development of philosophical thought. Lomonosov set forth his materialist views on the strength of the data of the wide range of sciences that his encyclopaedic talents led him to investigate. Particularly important is his discovery of the law of conservation of matter. This law provided the scientific substantiation of materialism, for it follows from it that matter cannot be created or destroyed altogether.*

Lomonosov elaborated the theory of the atomic and molecular structure of matter. Lomonosov's demonstration of the need to study the objective laws of the motion of matter and the causes of events taking place in the world was of great importance for science and philosophy.

Lomonosov was one of the foremost social thinkers of

* For the philosophical significance of this law, see the Third Talk.

his time. Coming from the people he condemned serfdom* and insisted that science should serve the cause of the enlightenment and emancipation of the Russian people. He was the father of the materialist tradition in Russian philosophy.

Radishchev was an outstanding materialist and revolutionary thinker. He devoted his talents to the struggle against serfdom, tsarist autocracy and despotism. Following Lomonosov, Radishchev continued and developed the materialist tradition in Russia. In his philosophical works he gave a materialist answer to the fundamental problem of philosophy and rejected the notion of the human soul. Hence his writings were of great importance for the struggle against mysticism and religious ideology. Lenin highly appreciated the services rendered by Radishchev as a thinker and revolutionary.

Idealism of Berkeley and Hume

Subjective idealist theories, the founders of which were *Berkeley* (1684-1753) and *Hume* (1711-1776), were widely current in England at the beginning of the 18th century. Bishop Berkeley virtually denied the existence of the external world, holding that only the human being, the subject, his consciousness, really exists. He asserted that things only exist when man directly perceives them—by seeing, hearing or feeling. If man does not perceive them the things do not exist. The world, in his view, exists in the consciousness and sensations of the subject. "To exist means to be perceived. Things are a collection of sensations." This is equivalent to asserting that the subject, the human being, creates the world. Hence it is clear why this type of idealism was given the name of *subjective idealism.* Consistently followed, it inevitably leads to *solipsism,* the idea that the single human being, the subject, alone exists and that the whole world is engendered by him.

Berkeley was an irreconcilable enemy of materialism and atheism. Hence it is not surprising that the materialists vigorously combated his views, subjecting his doctrine to withering criticism. Diderot, for example, wrote of Berkeley: "In a moment of madness a sentient grand piano imagined

* Serfdom—the juridically framed personal dependence of the immediate producers—the peasants—on the feudal lords, achieved by the feudal state power in the interests of the ruling class.—*Ed.*

that it was the only piano in the world and that all the harmonies of the universe were produced by it."*

The assertion of subjective idealism that the world exists only in our consciousness is refuted by life, by our practical activities. Everyday practice, productive activity, shows us that there really exists not only the one percipient human being, the subject, but the whole world with its things, phenomena and people. Subjective idealism is powerless when confronted with social practice.

Another English philosopher, David Hume, proceeded from the standpoint that the human mind deals only with sensations and not with real things. According to Hume, man knows only his sensations and cannot answer the question of whether the external world really exists or what it is in fact. Whereas Berkeley denied the existence of real objects, Hume merely doubted their existence. He therefore adopted the standpoint of *scepticism*, the philosophical trend which throws doubt on the possibility of the world's existence, and also of studying, cognising, it.

The subjective idealist philosophy of Berkeley and Hume was severely criticised by Lenin in his work *Materialism and Empirio-Criticism.*

The Conflict Between Materialism and Idealism in German Philosophy at the End of the 18th and Beginning of the 19th Century

From what we have said above it is clear that the materialism of the 17th and 18th centuries was a considerable advance on that of antiquity. It solved a wider circle of philosophical problems, it became more closely linked with science. Idealism and religion were dealt a heavy blow during this period.

The development of science and social life at the end of the 18th and beginning of the 19th century made it necessary to overcome the metaphysical mode of thought prevailing then. An important role in this respect was played by German classical philosophy, especially that of *Hegel* (1770-1831), and *Feuerbach* (1804-1872).

* Diderot, *Entretien entre d'Alembert et Diderot*, Paris, Librairie Marcel Didier, 1951, p. 30.

The philosophical system elaborated by Hegel was one of objective idealism. It considered that the basis of nature and society was the absolute idea, or world spirit, which exists eternally, independently of nature or man.

Nature, he asserted, is the other being of spirit. This implies that in nature spirit exists in another form—in the form of real things, objects. The absolute idea is the creator of reality, the latter being merely the external manifestation of the idea. You will probably have noticed that in a masked form Hegel is here merely smuggling in the religious idea of the creation of the world by God. Nevertheless Hegel's philosophy contains very valuable ideas. These consist above all in his theory of the eternal movement, development, of the world spirit, his famous dialectics. Marx and Engels attached great importance to this theory, as we shall show later on.

Hegel's dialectical method, in spite of being built on an idealist basis, was one of the great achievements of human thought. For the first time in the history of philosophy, Hegel formulated the *basic laws and categories of dialectics.* He did not succeed, however, in creating a truly scientific method, for he considered that it was the world spirit, philosophical concepts and categories, and not nature and society, that developed in accordance with these laws. His was not the dialectics of nature, but the dialectics of concepts taking place in "pure thought".

In consequence of this, Hegel made certain departures from his own theory of development, of dialectics. In dealing with nature, despite his dialectical method, he considered that there was here no development. He said that there is nothing new under the sun: nature is destined to eternal repetition of the same processes.

As regards human history, Hegel recognised development only in the past. He considered that the limit of social progress had been reached with the constitutional monarchy of Prussia based on social estates.

How can it happen, you may say, that while the dialectical method recognises nothing eternal, unchanging or ossified—and Hegel is a dialectician—he nevertheless denies the development of nature and sets bounds to the development of society? Is this not a contradiction? Certainly. In Hegel's philosophy there is actually a contradiction between the idealist system (i.e., his theory of nature and society as forms

of the existence of the "absolute idea") and the dialectical method, between the theory of eternal development and the metaphysical system which puts an end to it. As you may have already noticed, Hegel's dialectical method compromised itself for the sake of his metaphysical system. Connected with this, too, are Hegel's reactionary socio-political views. He exalted war and opposed peace. He is responsible also for certain chauvinistic utterances about the "German chosen people". These and similar ideas were later seized upon by the ideologists of imperialism. Hegel's dialectical method, however, had a tremendous influence on the development of all subsequent progressive philosophical thought. It became one of the theoretical sources of Marxism. But his idealist philosophy as a whole, like all idealism, proved to be a barren flower on the mighty tree of human knowledge.

Hegelian idealism came under fire from Ludwig Feuerbach whose great merit lay primarily in his revival of the traditions of 17th and 18th century materialism after a long period of the predominance of speculative German philosophy. The starting point of his philosophy was nature as the basis of all that exists. It is nature that has given rise to man and his consciousness. The material world is the sole basis for science too. Philosophy that is divorced from nature, said Feuerbach, is empty and trivial.

Feuerbach is the creator of so-called anthropological materialism (from the Greek "anthropos"–man). According to Feuerbach, the main content of philosophy must be man as part of nature. Philosophy must study man, but not after the fashion of the idealists who divide man into two independent parts–body and soul. Man, according to Feuerbach, is a unity of material and spiritual principles, a unity in which the body, the activity of the brain, gives rise to consciousness. This constitutes the materialist foundation of Feuerbach's anthropologism. It provided a keen weapon in the struggle against idealism and religion but, as Lenin pointed out, was nevertheless narrow and inadequate. This is because it regards man only as a *biological* being. But man lives in society and is the result of definite *social* relations, historically developed conditions, and it is only on their basis that man can be understood. Feuerbach, however, wanted to create a theory of "man in general". It is not surprising that this proved to be a theory of man in the abstract, divorced from concrete

social relations. Feuerbach's concept has nothing at all to say of the social and historical environment in which man lives. Man is presented as a metaphysical essence, given once and for all.

Feuerbach's atheism was important. He was a talented critic of religion and showed that people themselves created God by deifying their own feelings. Terror, love, thankfulness—all these feelings which are inherent in man, are ascribed to God. But instead of criticising and discarding all religion, Feuerbach endeavoured to create a new religion, a religion "without God", a religion of love. He combated religion but could not dispense with the word "religion", applying it to relations between people. This constitutes the inconsistency of Feuerbach's atheism.

His philosophy as a whole played a very great part in the development of the scientific materialist world outlook. His materialist views along with Hegelian dialectics were used by Marx and Engels in creating their philosophy.

From what has been said above it is evident that German classical philosophy of the end of the 18th and beginning of the 19th century played a prominent part in the development of the dialectical method (Hegel) and the materialist view of the world (Feuerbach). Under those historical conditions, however, these philosophers were unable to create a scientific philosophical theory.

Russian Materialist Philosophy of the 19th Century

The materialist world outlook of Russian revolutionary democracy began to take shape from the forties of the last century. It was the ideological banner of the revolutionary democratic movement against serfdom and tsarism which attained its apex in the sixties and seventies. The ideologists and inspirers of this movement were the Russian revolutionary democrats: *Vissarion Belinsky* (1811-1848), *Alexander Herzen* (1812-1870), *Nikolai Chernyshevsky* (1828-1889) and *Nikolai Dobrolyubov* (1836-1861).

Hegel's dialectics and Feuerbach's materialism were a higher stage reached by pre-Marxist philosophy in the West. The world outlook of the Russian revolutionary democrats marked a new, still higher stage in the development of

materialist philosophy. This world outlook was that of peasant revolutionary democracy. Its most typical features can be found in the works of Herzen and Chernyshevsky.

Lenin wrote that in the conditions of feudal Russia of the eighteen forties Herzen succeeded in rising to the level of the great thinkers of his time. He mastered Hegel's dialectics. He realised that it was "the algebra of revolution". Lenin further points out that as a thinker he stood head and shoulders above the idealist philosophers of the West. "Herzen came right up to dialectical materialism, and halted—before historical materialism," wrote Lenin.*

According to Herzen, nature and matter exist "self-sufficiently" i.e., independently of man. They existed before him and "they showed no concern for him after he appeared". In upholding materialism, Herzen also defended dialectics. He said that nature is in a state of constant motion and development. In inspired and poetical language he wrote: "Examine it [nature] as it is and you will see that it is in motion; give it full scope, look into its biography, into the history of its development—and only then will you get a coherent picture of it. The history of thought is a continuation of the history of nature: neither mankind nor nature can be understood apart from their historical development."

Herzen was one of those foremost thinkers who understood that the time had come to combine the materialist world outlook with the dialectical method. He himself did much to enrich materialism with dialectics. But he was not able to fuse them into a single world outlook because he was limited by the conditions of his times. For this reason he was not able to rise to the height of understanding the laws of historical materialism.

Chernyshevsky was the acknowledged leader and inspirer of the revolutionary movement of the eighteen sixties. Lenin wrote that he made "a great stride forward as compared with Herzen. Chernyshevsky was a far more consistent and militant democrat, his writings breathing the spirit of the class struggle."**

The basis of Chernyshevsky's revolutionary democratic views is his materialist philosophy. His materialism is of an

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* Lenin, *Collected Works*, Vol. 18, p. 26.
** *Ibid.*, Vol. 20, p. 246.

anthropological nature. Following Feuerbach, he put man at the centre of his philosophical system. His point of departure here is the idea of the unity and integrity of the human organism. Underlying this unity is the bodily organism, the material basis. In studying the essence of man, Chernyshevsky arrives at a materialist solution of the fundamental question of philosophy, regarding the human "body" as primary and consciousness, thought, as secondary.

Chernyshevsky's anthropological principle, like that of Feuerbach, is narrow and inadequate, but compared with Feuerbach he made a substantial advance in understanding the social and historical conditions in which people live. Man, in his view, is not merely a biological being. In man's life and happiness, he wrote, "the material side (the economic way of life) is of great importance".

Chernyshevsky was not only a great materialist but also an outstanding dialectician. He expressed the following notable thought: "History moves slowly, yet almost its entire movement takes place in leap after leap." In another passage he formulates one of the most important of the laws of dialectics by saying "quantitative difference passes into qualitative difference".

The revolutionary democratic character of the views of the Russian 19th century thinkers is expressed in their conception of social phenomena. They propagated socialist ideas. Their ideas were, however, in the spirit of utopian socialism, for they believed that Russia would arrive at socialism through the peasant commune. Consequently the Russian revolutionary democrats were as yet unable to perceive the social force capable of leading the peasants to the struggle for the triumph of socialism, viz., the proletariat. They did not realise that the peasant commune could not by itself become a nucleus of socialism.

The utopian socialism of the Russian 19th century thinkers differed considerably from the West European variety. They were aware that socialism could be reached only through revolutionary struggle, through a popular revolutionary uprising. Hence they called upon the peasants to "take up the axe", to engage in revolutionary struggle.

Russian materialist philosophy played a tremendous role in the development of revolutionary democratic thought in Russia during the second half of the 19th century. But owing

to the backwardness of Russian life, its proponents could not reach the level of the dialectical materialism of Marx and Engels, the appearance of which marks a real revolution in the development of philosophy.

The Appearance of Marxism—a Revolution in Philosophy

Marxism arose in the forties of the 19th century as the world outlook of the proletariat. Definite socio-economic conditions–the capitalist relations that led to the rise of the most revolutionary class, the proletariat–brought it into being. Its appearance depended, too, on certain prerequisites in the field of natural science, as already mentioned in speaking of the dialectical method. We have dealt also with the part Hegel and Feuerbach played in creating the ideological prerequisites of Marxist philosophy. We pointed out that Marxism was not a simple continuation of previous philosophical systems. It was a fundamentally new theory, a new philosophy.

Even the most progressive pre-Marxist philosophy had its limitations. What were they? Let us recall what has been said about them. In the first place, pre-Marxist materialism was *mechanical*. In other words, it tried to explain all the phenomena of reality by the laws of mechanics. Even man was regarded by the exponents of pre-Marxist philosophy as a machine. Secondly, it was *metaphysical*. It was not based on dialectics, the theory of development. Moreover, previous materialists explained only nature in materialist terms, whereas they explained the phenomena of social life *idealistically*. A further defect of pre-Marxist materialism was its *contemplative nature*; its exponents did not understand the role of social practice.

How are these limitations to be explained?

Materialism in the past, as we have seen, expressed the interests of progressive classes. The bourgeoisie, for example, was progressive in the period of its rise; it opposed the power of the kings and feudal lords but was itself an exploiting class. Hence it could not be thoroughly progressive and this was reflected in the philosophy which expressed its interests. The French 18th century materialists are an example of this; they looked on the bourgeois order as eternal and immutable.

This was a metaphysical view of the history of human society. The limitations of pre-Marxist materialism, therefore, had social roots.

It has been mentioned that Marxism arose under new social conditions. A new world outlook was essential for the proletariat in its struggle for a radical change in social relations. The emergence of this new outlook was facilitated by the development of science—physics, biology, chemistry, geology, etc. The new data of these sciences and the development of social relations led to the creation of *dialectical materialism* by Marx and Engels. The limitations of pre-Marxist materialism were overcome. The founders of Marxism enriched materialism with a new, great achievement of human thought—dialectics. Dialectics itself underwent a radical transformation: Marx and Engels created *materialist dialectics*. On the basis of dialectical materialism they explained also the development of society and created *historical materialism*. Thus a completely new philosophy arose. This was a real revolution in the development of philosophy. In addition, Marx and Engels set philosophy new tasks: their philosophy was made a weapon in the transformation of the world. This constitutes *one of the characteristic features of Marxist philosophy—its revolutionary character*.

Let us deal with this question in more detail.

Instrument for the transformation of the world

There are two possible opinions about philosophy, two ways of approaching it. For a very long time it was held that philosophy ought only to explain the world but not concern itself with changing it. That was the view, for instance, of materialists in the past. Consequently, Marx said that their materialism was of a *contemplative*, i.e., inactive, passive nature. This inevitably leads to a denial of revolutionary practice and of the possibility of altering social conditions. But revolutionaries cannot hold a view like this. That is why *Marxist philosophy teaches active intervention in life so as to change it, to transform it*. Marx expressed this idea in the words: "Philosophers have only *interpreted* the world, in various ways; the point, however, is to *change* it."*

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* Marx and Engels, *Selected Works*, Vol. 2, p. 405.

The militant, revolutionary character of Marxist philosophy is one of its most important features. It is above all a guide to action, a militant weapon of the proletariat. Armed with revolutionary theory, the proletariat becomes a fearless fighter for the realisation of Marxist ideals and, therefore, of the ideals of all progressive mankind. That is why from the moment that Marxism appeared the prime historical task became *to unite Marxist socialist theory with the proletarian movement, to unite the theoretical weapon with the material power which could wield this weapon, with the proletariat, the people.*

Materialism of our time is Leninism

To this historic cause *Vladimir Lenin* (1870-1924) devoted his life. His very first steps as a great theoretician and revolutionary were devoted to uniting Marxism with the revolutionary movement. This was no easy task because, after the death of Marx and Engels, the revisionists in a number of labour parties of the West abandoned the revolutionary spirit of Marxism. They wanted to convert it into a commonplace, "ordinary" theory on a par with other theories and philosophical doctrines. Lenin held high the banner of Marxism and bore it through all storms and revolutions to ultimate triumph. *Lenin and the Communist Party succeeded in Russia in accomplishing the historic task of uniting socialism with the labour movement.* Leninism became the ideological weapon of millions of working people.

Lenin not only upheld Marxism in all its purity but developed further its main propositions. For Lenin lived in a new historical era, the era of imperialism. In accordance with the changes that had taken place in society in this era it was necessary to develop further the main propositions of Marxism, while retaining intact its chief, fundamental feature–its revolutionary spirit. This task was carried out by Lenin. He created the great teaching known as *Leninism* which is *Marxism of the era of imperialism and proletarian revolutions, the era of the transition from capitalism to socialism, of the construction of communism.*

In our era there can be no Marxism that does not include the new, great contributions made by Lenin. Hence all attempts to separate Marxism from Leninism, to set one against the other (and this is precisely what many bourgeois philosophers and revisionists are now trying to do) serve only

one purpose, viz., to keep the people away from the most revolutionary theory of the present era. Such attempts meet with a well-deserved rebuff from Marxists.

Lenin's activities in the sphere of philosophy comprise a whole stage, an era, in the development of philosophical thought. This era covers the period from the end of the nineteenth century to our day. What were Lenin's new contributions to Marxist philosophy?

In the first place, Lenin substantially enriched the theory of dialectical materialism. At the end of the 19th and beginning of the 20th century, science made a number of new discoveries, which we shall deal with in more detail in the next talk. On the basis of these discoveries, Lenin not only defended Marxism from the attacks of the idealists, but developed the most important parts of Marxist philosophy—the theory of matter and the theory of knowledge—and profoundly elaborated the laws and categories of dialectics.

Lenin made a great contribution to the theory of historical materialism. In this field he had to make a more precise formulation of the main propositions of Marxism corresponding to the new historical era. Thus Lenin created *a new theory of socialist revolution* which served as a guide for the working people in their struggle for a revolutionary transformation of the world and the building of socialism in the Land of Soviets. To this day it is a guide to action for the proletariat and its vanguard—the Communist and Workers' Parties of the whole world.

Lenin enriched the Marxist *theory of the class struggle* and gave a definition of classes; he developed further Marx's *teaching on the dictatorship of the proletariat*, defending it from the attacks of the revisionists; he created a new *theory of the socialist state* and established the Soviets as a new form of the dictatorship of the proletariat.

Lenin's *plan for the building of socialism and communism* in Soviet Russia was of immense importance. His formula: "communism is Soviet power plus electrification of the whole country" underlay the grandiose plan for constructing the material and technical basis of communism, adopted by the C.P.S.U. at its 22nd Congress.

After Lenin's death, the philosophy of Marxism continues to be developed by the foremost leaders of the C.P.S.U. and fraternal Communist and Workers' Parties. Their theoretical

works, reports and speeches at Party congresses and plenary sessions of the Central Committee, and their practical activities, are examples of Marxism-Leninism in action, of its development in the new conditions of struggle for communism.

Especially important are the contributions to Marxist-Leninist theory made by the 20th, 21st and 22nd congresses of the C.P.S.U. In documents of congresses are to be found the creative solutions of such major problems as the dictatorship of the proletariat today; the laws of the development of socialism into communism; the socialist countries' more or less simultaneous entry into communism; the ways of creating the material and technical basis of communism; the shaping of communist social relations and the education of the new man; the multifarious forms of the transition from capitalism to socialism; the character of the present era; the possibility of preventing world war in our time; and other problems. The 22nd Congress of the C.P.S.U. adopted the great Programme of communist construction which has been rightly called the Communist Manifesto of our time.

The creative character of Marxism

It is clear, therefore, that Marxist theory continually develops. It cannot endure stereotyped, hackneyed formulas.

What would one say of a man who reacted to all the circumstances of life according to a single, ready-made pattern? At the very least one would say that he was inclined to be stereotyped. Such an approach is called *dogmatism.* For such a man every proposition is a dogma, i.e., an eternal, immutable doctrine which cannot be altered even if life has long ago refuted it. All religions inculcate such dogmatism. They insist on belief in the dogmas of the Church, in what are alleged to be indisputable truths, even if they obviously contradict science and common sense.

Marxism is incompatible with dogmatism of any kind. The dogmatist is not interested in what exists in reality, but only in what he has learned "from the book", in dogmas whose truth he does not want to test. Dogmatism tries to squeeze all the phenomena of life into a lifeless framework. In so doing it shackles creative initiative and revolutionary thought. Marxism, however, calls for a creative approach

towards the reality. This means that one should not be guided by what is said in books but rather base one's activity on life and practice, moreover the practice of *the present day.*

Lenin ridiculed the dogmatists, who "looked to books, learnt from books, repeated statements from books and understood nothing at all of what was in them".* He sharply criticised the type of leader who has "in his head as it were a box of quotations, which he keeps putting forward; but if a new circumstance occurs that is not described in the book, he is thrown into confusion and takes out of the book the very quotation that is not applicable."**

The creative approach is the very opposite of dogmatism. It is intimately connected with the very latest situation. A creative thinker is one who will not suffer stagnation and stereotyped formulas, who refuses to recognise "eternal" truths, dogmas or unchanging circumstances. The genuine Marxist always looks for what is new and progressive both in theory and in daily practical activity. He is characterised by vitality in work and a creative search for the new.

The documents and decisions of the historic 22nd Congress of the C.P.S.U. afford an example of the creative approach to Marxist-Leninist theory.

The new historical conditions that had developed in the U.S.S.R. called for a further elaboration of major theoretical propositions and conclusions: on the Soviet state, the dictatorship of the proletariat, the development and rapprochement of nations, the overcoming of socio-economic, cultural and welfare distinctions between town and countryside and between mental and physical labour, the methods of communist construction, and so on. These major problems of Marxist-Leninist theory are being handled and developed by the Party in accordance with the new conditions. The decisions of the 22nd Congress are a real stimulus for all who work in Soviet society and who wish by their labour to speed the completion of the glorious edifice of communism.

What kind of world outlook is required for such a creative approach? It cannot be metaphysics which, as we have seen, gives rise to dogmatism, since it denies development. Materialist dialectics, on the other hand, sees the world

* Lenin, *Collected Works,* Vol. 29, Russ. ed., p. 332.
** *Ibid.,* p. 335.

in constant motion, change and development; hence it does not allow of any "eternal", "immutable" dogmas. It inspires innovation. Since dialectics, in Lenin's phrase, is the revolutionary soul of Marxism, it is essentially creative.

To master Marxism-Leninism means to be deeply imbued with its militant, revolutionary spirit, to know how to apply it in actual historical conditions, in practice. To understand the transformative significance of Marxist theory is not a matter of learning quotations by heart or converting Marxism into a collection of dogmas, but of understanding it as a guide to action, to the solution of important practical tasks.

THIRD TALK

WHAT IS MATTER AND IN WHAT FORMS DOES IT EXIST?

The world exists objectively; it is of a material nature

Life, everyday practical activities, convince us that the world exists objectively, independently of man, of his consciousness, sensations and desires. Science testifies to this by proving that the Earth came into existence long before man or any living organisms, that is to say it existed independently of them. The objective character of the world, i.e., its existence apart from and independently of consciousness, implies that it is of a *material nature.*

It may be asked: since objective idealists admit that the world exists apart from human consciousness, does it not follow that they recognise the material nature of the world? By no means. It is true that objective, in contrast to subjective, idealists admit that the world exists apart from human consciousness. But they do not acknowledge that it is independent of consciousness; they regard it as a product of consciousness. The recognition of the material nature of the world—its existence *apart from and independent of consciousness*—is the characteristic feature of materialist theory. This fundamental scientific thesis underlies Lenin's theory of matter.

Lenin's concept of matter

We are surrounded by an infinite number of objects and phenomena. Stones and trees, grains of sand and the sun, animals and automatic lathes, the seas and oceans, the stars and planets, and much more besides—all of this we denote by the single word *matter.* Perhaps you find it perplexing that a single word can be used to cover such a countless multitude of

things and phenomena, so different and remote from one another. A little reflection, however, will make it easier to understand why this is so.

Consider, say, how many flowers there are in the world. They are innumerable; there must be thousands of millions. But we have the one word "flower" and we use it to denote a rose, a tulip, a forget-me-not, a fox-glove, and so on. Let us take a more complicated example. You are sitting in a chair reading a book. You have a pencil in your hand, and pen, ink and paper are beside you. On the table is a lamp and nearby is a bookcase. Can you use a single name to denote the book, pencil, table, etc.? Of course, for they are all things. The word "thing" applies to all of them. In logic it is called a *concept*.

How are such concepts formed? Although flowers are all different from one another, they have much in common. It is what they have in common that makes it possible to embrace them all in the general concept "flower". This does not include the features that make one flower different from another, but, on the contrary, just those features which are common to all of them. We set aside or, as it is said, abstract from (as it were "disregard") the features which distinguish one flower from another. Hence such concepts are called *abstract*.

Thus, *concepts reflect the common and essential features belonging to different objects and phenomena independently of the individual peculiarities of each of them.*

You will probably have noticed that some concepts embrace a wider circle of objects or phenomena than others. Thus the concept "thing" is much wider than the concept "pen" or "table". The latter are included in the concept "thing".

You may perhaps ask: do there exist concepts that are extremely wide, that have the maximum possible range? They do exist. If a concept embraces all objects and phenomena ranging, say, from a grain of sand to the human brain, it can be said to have the maximum range.

The concept "matter" is of this kind. It follows that "matter" is also a concept, just as much as "flower" or "thing", but a very wide one, the widest possible. It is distinguished from ordinary concepts by expressing the essential and common characteristics not of some one group of things, but of all things and phenomena in the world—of

everything around us. Philosophy studies concepts of maximum range. They are called *philosophical categories. Matter is a philosophical category.*

What then are the common and essential properties, the similarities, characterising all things? First and foremost, they consist in the fact that all things are of a material nature, existing objectively, i.e., apart from and independent of human consciousness. They all have this single foundation.

Is this, however, the sole property common to all objects in the world? It is not. They have yet another important property in common. When, for instance, we wash in hot water we have a sensation of warmth. When we look at the trees in a forest, we sense, we see, various colours—the white trunks of birch trees, the green colour of leaves. Consequently, things, *which exist independently of us, possess the property of acting on our sense organs and evoking corresponding sensations.*

Now that we have become clear about the most general properties of things and phenomena, we can give a definition of the concept of matter. In his work *Materialism and Empirio-Criticism*, Lenin wrote: "Matter is a philosophical category denoting the objective reality which is given to man by his sensations.... Matter is that which, acting upon our sense organs, produces sensation; matter is the objective reality given to us in sensation, and so forth."*

As you see, *matter is that which surrounds us, everything that exists objectively—the boundless external and material world,* which by acting on our sense organs produces sensations.

From the preceding talk you already know that in antiquity (and also about a hundred years ago) some materialists conceived matter as being a definite "material" of which all things consist. Democritus, for example, regarded atoms as being the primary basis of all matter.

In the 17th and 18th centuries, science regarded atoms as being indivisible, indestructible and eternal. They were the "ultimate bricks" of the universe, the building material of which the whole world was made. This view prevailed in the 19th century as well. But, as already mentioned, at the

* Lenin, *Collected Works*, Vol. 14, pp. 130, 146.

end of the 19th century discoveries were made which threw doubt on the correctness of such a conception of the primary basis of matter.

What were these discoveries?

Lenin on the revolution in natural science

In 1896 the French physicist Becquerel accidentally left some uranium ore close to a closed packet of photographic film. Some time later he noticed that the film had blackened. He concluded that uranium ore gives out rays, invisible to the eye, that can penetrate cardboard and blacken a photographic film. This began the study of the remarkable phenomena which were named radioactivity.

Before long a new chemical element was discovered and named radium. Later, this "great revolutionary", radium, began to make no small stir in the world.

The rays emitted by radium testified to something that was the direct opposite of what was known about the atom until then. These rays were found to consist of minute particles of three kinds: alpha (α)-particles with a positive electric charge, beta (β)-particles, or electrons, with a negative charge, and gamma (γ)-rays having no electric charge. The uranium atom had apparently disintegrated into these particles. But for over two thousand years it had been held that the atom was indivisible. Scientists at first suspected a mistake had been made.

But there was no mistake. By the end of the 19th century it was firmly established that the opinion about the indivisibility of the atom had simply to be discarded; the atom was divisible. It disintegrated and at the same time many old notions disintegrated as well.

Other discoveries, too, indicated the collapse of the old notions of matter and its properties. At the beginning of this century, for example, the famous physicist, Albert Einstein, showed that the ideas of space and time that had been held in physics since the time of Galileo and Newton required to be radically altered. Einstein's new ideas were the basis of his *theory of relativity.*

Since Newton's time scientists had considered that the mass of a body at rest or in motion was constant, unchanging. Modern research, however, showed that the mass of the electron *does not remain constant but varies* with the velocity of the electron.

Thus, the recent scientific discoveries overthrew the old notions of the indivisibility of the atom, the constancy of mass and the invariability of space and time. There began a revolution in natural science, as Lenin called it.

Bourgeois idealist philosophers were not slow in taking advantage of these discoveries. They argued along the following lines: the indivisible atom which was regarded as the basis of matter is found to divide into fragments. Hence the very foundations of the edifice of materialism and its central element–matter–have collapsed.

Furthermore, mass used to be considered the essential property of all bodies, of matter. But it turns out that the mass of the electron varies with its velocity. Consequently part of its mass has "disappeared". Hence "matter also disappears". These philosophers therefore concluded: materialism is bankrupt. Since this conclusion was made on the basis of the new data of physics, collected at the turn of the century, this trend of idealist philosophy was called "physical idealism", a term introduced by Lenin in his book *Materialism and Empirio-Criticism*, published in 1909. Lenin crushingly refuted the inventions of the idealists.

The natural-scientific picture of the world

What really happened to science at the turn of the century? New knowledge was obtained. The existence of electrons, protons and the atomic nucleus was previously unknown. All these data showed that our *natural-scientific picture of the world*, our ideas of the structure of matter, had changed. But did these new data justify the conclusion that electrons, atomic nuclei, etc., were of a non-material nature? Let us see.

Do electrons exist objectively, independently of man, or not? Of course, they do. Lightning, for example, is nothing but a powerful stream of electrons. And we know that lightning occurred before man existed.

Some idealist philosophers maintain that the electron is of a non-material nature because it does not act on our sense organs, it cannot be seen. But this is not the case. Electrons and other minute atomic particles are studied by means of very delicate instruments. The tracks of their movements can even be photographed. Hence they do act on our sense organs, although this occurs through the medium of special apparatus. Thus, these particles exist objectively

and act on our sense organs; hence, they are of a material nature.

Lenin concludes therefore that matter has by no means "disappeared". It is simply our knowledge of it that has altered. It was previously thought that the world consisted of minute particles–atoms. Now we know more, we have deepened our knowledge and discovered that there exist more minute particles–electrons. But the electron is just as inexhaustible as the atom. This means that science will reveal a more and more profound natural-scientific picture of the world, for more and more will become known of the structure, state and properties of the concrete forms of matter.

Lenin's words have been confirmed.

Modern science has made many new discoveries about the structure of matter. At first only the electron and proton were known, but now over 30 different "elementary" particles have been discovered. And so, *not only atoms, but electrons and other particles are of a material nature.* Materialism has by no means been "overthrown".

Lenin's ideas philosophically substantiated the major scientific thesis that there exist two basic forms of matter–*substance* and *field.*

Substance, as understood in modern physics, is a form of matter consisting of particles possessing its own mass (mass at rest). They include the so-called elementary particles.

Field is a material structure connecting bodies with one another and transforming action from one body to another. There is the electromagnetic field (one variety of which is light), the gravitational field, and the nuclear field connecting the particles of the atomic nucleus.

These two forms of matter–substance and field–cannot be divorced from one another. Under certain conditions they are converted into each other. Thus two particles of matter–a pair consisting of an electron and a positron–under definite conditions become converted into a photon–a particle of the electromagnetic field. This implies that one form of matter –substance–has been transformed into another form–light, electromagnetic vibrations, which is the same thing as the electromagnetic field. Thus, no disappearance of mass occurs in nature.

The historic service rendered by Lenin is that by his analysis of the significance of the scientific discoveries he upheld materialism and convincingly showed that metaphysical materialism must not be confused with dialectical materialism. The former holds that matter consists of immutable and indestructible atoms. The starting point of dialectical materialism is that matter cannot be reduced to an "ultimate brick"—the atom; nor can it be reduced to some sort of "eternal" property. Matter possesses not one property, but innumerable properties; just as there is a great diversity of objects in the world, so their properties too are equally diverse. This has been confirmed by scientific discoveries. That is why Lenin wrote: "Modern physics is in travail. It is giving birth to dialectical materialism."*

Lenin showed further that the theory of the structure of matter must not be confused with the *philosophical definition of matter* as an objective reality. Scientific discoveries decide the question of the structure of matter, whether it consists of atoms or electrons, or whether there are also other particles. Philosophy, however, tackles a different question: whether the world, and hence these particles, exists objectively, apart from human consciousness. Consequently, no matter what new "particles" science discovers (and it is continually discovering new ones) materialism cannot be overthrown, for these particles themselves are of a material nature, existing objectively, independently of man and mankind.

Therefore, *the philosophical concept of matter must not be confused with the question of the natural-scientific picture of the world.* Our notions of the structure, state and properties of concrete forms of matter—the natural-scientific picture of the world—are continually changing, for scientists acquire ever deeper knowledge of the world and its structure. It follows that the new discoveries have refuted the old knowledge of the natural-scientific picture of the world, but not the philosophical concept of matter, which concerns the objective existence of the world and not its structure. However greatly our ideas of this picture of the world may alter, they cannot testify to the disappearance of matter. As Lenin said, what disappears is the boundary of our knowledge of

* Lenin, *Collected Works*, Vol. 14, p. 313.

matter. But the material nature of the world, matter as an objective reality, receives fresh confirmation.

But why is it that idealists so zealously combat the concept of matter?

The theory of matter refutes belief in God

The French Catholic philosopher Alfred Ancel has said that what he dislikes most about Marxism is "the dialectical theory of matter". "The Church would not condemn Marxism," he says, "if it did not arbitrarily exclude all intervention of God in the origin and development of the world; if Marxism has to be condemned, it is only on account of its materialism." That, it appears, is the "root of the evil" of Marxist philosophy!

The theory of matter precludes all divine intervention. It makes nonsense of the religious inventions about the creation of the world. All religions are alike in maintaining that God created the world "out of nothing".

Science, however, has firmly established that in nature nothing arises out of nothing and nothing disappears without a trace. In science this finds expression in a special law, the law of the conservation of mass or, in other words, the law of the conservation of matter. The only possible conclusion is that drawn by materialism: *matter never came into existence, it has always existed and will always exist. The world is eternal, it was not created by anybody.* The scientific thesis of the eternity of matter radically undermines religious belief in the creation of the world.

This thesis of the eternity of matter often evokes questions from students of Marxist philosophy. They ask: "How is it possible that matter has always existed? Must it not have come into being at some time?" There is nothing surprising about these questions. In his lifetime a person comes to see that everything has a beginning and end. That is why he asks: who created matter? Science answers: it has always existed.

As far back as Greek antiquity, Heraclitus wrote that the world was not created by any God nor any man, but was, is, and will be eternal.

What proof is there of this important conclusion?

There are very many facts in favour of it. Take, for example, *the law of the conservation of matter.*

Let us begin with a domestic example. You burn firewood in a stove. At first sight it seems to have disappeared, leaving

only a little ash. But careful weighing of the products of combustion shows that there has been a gain, not a loss in weight. For they contain the same substances that were in the wood before it was burnt and in addition those taken from the air during burning.

The great Russian scientist Lomonosov drew attention to such a fact. He concluded that no body or element could be annihilated nor could it arise out of nothing. He formulated this idea in the law of conservation of matter.

It follows from this most important law of nature, that the religious myth of God's creation of the world out of nothing is entirely fallacious. If we assume there was a time when there was nothing in the universe, i.e., there was no matter, there was nothing from which it could arise. But since matter exists it means that it never came into existence but has always existed and will exist. It is eternal and immortal. The scientific thesis of the eternity of matter radically undermines the religious faith in the creation of the world.

Furthermore, since matter is the basis and source of all the phenomena of nature, there cannot be any such phenomenon not existing objectively and really, and not susceptible of being studied by the sense organs, physical apparatus or other scientific means. That being the case, there is no room for religious tales about angels or spirits, no room for divine Providence.

If, indeed, angels do exist, why do they not manifest themselves in any way? Even the very minute electrons have become available for man's study. Why are angels not detectable whether by our sense organs, physical apparatus or anything else? Nor is the effect of their "actions" observable. Is there anything in the world of which it can be said: this was the work of angels? There is not. Consequently, neither God, nor angels, nor the "other world", exist. The Church is unable to refute this conclusion. That is why the materialist concept of matter is so hateful to the idealists and the Church. That is why they try to refute it by saying that "matter has disappeared". Since they cannot succeed in that, they try at least to distort the true meaning of the concept of matter.

They assert: suppose matter has existed eternally, materialism will gain nothing from that. Let us imagine, they say, the infinitely remote epoch when instead of the present universe there existed some kind of formless, motionless

matter. It remained in that state for an infinitely long time. But a time came when matter had to emerge from the state in which it had been until then. But if it had been motionless until then, how did it suddenly come into motion? Within matter itself, say the idealists and the Church, there cannot be any basis for such a change. Consequently, there must be some power, outside and apart from nature or matter, which brought this dead matter out of its state of "dormancy" and immobility. This power is God.

But does matter really require some higher power to give it this impulse?

Matter exists in motion

Ask someone who has not studied Marxist philosophy what motion is, and you will probably be given something like the following answer: "Motion is change of place. If an object remains in one place, it does not move. A stone, for instance, does not change its position unless someone throws it." But take a look at the stone at rest. Motion is, nevertheless, taking place within it: the atoms, molecules, electrons and protons, which we know to be present in all bodies, are in continuous motion. A house, too, is not motionless, it moves together with the Earth around the Sun. Suppose that we are seated at a meeting and must not move. Our blood, however, is circulating, and complex motions are taking place in our body: new cells are being formed and old ones dying or being destroyed. This is also motion. It follows that the problem of motion is much more complicated than is sometimes thought.

People see that a stone lies where it is until it is thrown, and that a motor-car does not move until the chauffeur drives it. It is roughly on arguments of this kind that the Church bases its opinion that matter was in a motionless state until a higher power, God, communicated the "first impulse". Even such an eminent scientist as Newton could not explain the motion of matter from matter itself. He considered that God imparted the "first impulse" to nature, that God "wound the clock" and only after this did motion become an inherent characteristic of matter. But is such a dead, motionless state of matter possible? In other words: was there a time when matter but not motion existed?

About two hundred years ago science had investigated only one form of motion–displacement in space. At that time it was possible to assume that a body would remain at rest

until some external force brought it out of this state. This view was then applied to nature as a whole. But the development of physics, chemistry and biology showed that motion occurs in various forms.

Take, for example, heat. It turned out that this was the result of the motion of a vast number of molecules, as in the case of water. Water becomes hot owing to the motion of the molecules. This is not mechanical motion, but something new and more complex. An electric current is a flow of electrons. And a chemical reaction is motion, combination of ions, a still more complex process. A living organism, too, as already mentioned, is always in a state of motion. Incessant processes take place in human society: the social order changes, people themselves change.

What conclusion should be drawn from all this? It is that *various forms of motion exist in nature.* There is, firstly, displacement in space of particles of matter or bodies, i.e., the *mechanical* form of motion. Secondly, heat and electrical processes, or the *physical* form of motion. Thirdly, chemical reactions, the combination of ions, the *chemical* form of motion. Fourthly, changes occurring in living organisms, or the *biological* form of motion. Fifthly, the *social* form of motion, i.e., changes taking place in social life.

It cannot be said, therefore, that motion is simply displacement of bodies in space, for this is only one form of motion. What we have been considering is the question of what motion is in the most general, philosophical sense of the word. This implies primarily determining what is the chief, characteristic feature of all forms of motion. Motion, Engels wrote, "comprehends all changes and processes occurring in the universe, from mere change of place right up to thinking".* It follows that *motion comprises all changes taking place in objects or phenomena, that is to say, in the world, in matter. It is change in general.*

Is it possible for matter to be in a state in which no changes take place in it? Of course not. Even in the remote past when there were no people, no animals, no living cells, matter underwent changes. Bodies consist of molecules and atoms and the latter are in constant motion. Hence, there never was any ossified, absolutely motionless body. Furthermore, if there

* Engels, *Dialectics of Nature*, p. 92.

were atoms, molecules and electrons, there could not fail to be chemical reactions. Hence, there was also the chemical motion of matter.

It is easy to see, therefore, that *matter never was in a state in which it existed without motion.* Hence, we say *motion is a form of the existence, of the being, of matter.* Motion is an inseparable property of matter or, as philosophers put it, an *attribute* of matter. There is no matter without motion, it exists only in motion.

This conclusion is confirmed by the irrefutable evidence of our practical experience. When a mechanical lathe is in operation, its parts become hot. This means that the mechanical form of motion (the rotation of individual parts) is converted into the heat form of motion. In an engine one can observe the reverse process; steam produced by combustion is used to move the wheels. Here heat energy is converted into mechanical energy.

By generalising such facts, science reached the conclusion that motion cannot be created out of "nothing", nor can it disappear into nothing. Motion can only be transformed from one into another form. This important proposition of natural science was called *the law of the conservation and transformation of energy* (energy in physics is a measure of the motion of matter).

If at some time matter had been in a motionless state, motion would not have arisen in it. Hence, *motion is always inherent in matter, and the latter has no need of any "first impulse". There was never such an "impulse".*

This does not mean that dialectical materialism denies the existence of rest. Rest exists in nature, but it is *relative.* This means that there is no phenomenon in which everything is at rest, in which there is no motion. This was shown above.

If a body is at rest it is so relatively to something. During a journey by car, for example, we are at rest relative to the moving car. But this is not absolute rest, for continual changes are taking place in our body.

The dialectical conception of rest is radically different from the metaphysical conception. *Metaphysics conceives rest as the absence of all motion.* Dialectical materialism is opposed to this conception.

What is of decisive importance in nature is not rest, although it does exist, but movement, development, change.

Denial of the universality of motion as an attribute of matter leads to admitting the notion of God. That is why this denial is widely utilised by modern bourgeois philosophers, especially the neo-Thomists.* The French neo-Thomist Father Calvez, for example, declares that development is possible only through God being the motive force of nature. But we have already seen that matter, nature, has no need at all of any "motive force". Motion is inherent in it as a fundamental, inseparable property. It is meaningless to ask the origin of something that has existed eternally. There is no sense in asking who imparted motion to matter, since motion is inseparable from it, being a form of its existence. What are other forms of existence of matter?

Space and time are forms of the existence of matter

All bodies possess extension, a definite volume in three dimensions—breadth, width and height. They occupy a definite space. In addition they are spatially related to one another, farther or nearer, higher or lower, to the right or left. That is to say, they exist in space and cannot exist otherwise. But, as we have seen, all objects consist of what we call matter. Hence, *matter cannot exist otherwise than in space.* That is why *space* is defined as *a form of the existence of matter.*

Furthermore, all phenomena in the world are in eternal change, motion, development. But how do these changes take place? A simple example will show. Look at photographs of yourself taken at intervals from an early age until now. You will notice that changes accumulate with the passage of years, that all changes take place in time.

In addition, all changes in the world take place in a definite sequence; night is followed by day, capitalism by socialism and communism. One event occurs earlier, another later. They all have a definite duration. This sequence and duration of events can only take place in time.

Thus, *everything that happens in the world proceeds in time.* Therefore *time* is also *a form of the existence of matter.* Lenin wrote: "There is nothing in the world but matter in motion, and matter in motion cannot move otherwise than in space and time."**

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* Neo-Thomism is the official philosophy of modern Catholicism.
** Lenin, *Collected Works,* Vol. 14, p. 175.

If space and time are both defined as forms of the existence of matter, you may say, then there cannot be much difference between them. But we have already seen that this is not so. Space is a form of the existence of matter, defining the *location* of a material body, its dimensions, its volume. Time, however, defines a different aspect of the existence and development of matter–the *sequence* of the changes taking place in material bodies. The difference is obvious. It is clear from this that the properties of space and time are different. What properties then are inherent in space and time?

Space has three dimensions. It means that length, breadth and height furnish a full description of space. The possession of *three dimensions is the most important feature of space.*

You all know that changes of phenomena in time occur in only one direction, from the past to the present and future, and never in the reverse direction. "Time machines", in which one can travel backwards in time, occur only in fiction. Look again at your photographs. The development from youth to age has occurred only in one direction. It is impossible to reverse their direction. Consequently, *the most important property of time is its irreversibility.*

As you see, space and time differ. Why do we define both of them as forms of the existence of matter?

Objects cannot exist in space without existing in time. If an object occupies some place in space it does so at a particular time. An object occurs in space and in time. Take a train time-table as an example. The train is at such-and-such a place at such-and-such a time. It is impossible to separate the place where the train is from the time at which it is there. The questions where? and when? are inseparably connected. They refer to the time of an event and its place in space.

Thus, *space and time are inseparably connected. Space without time does not exist, any more than time without space.* And since matter exists in *space and time,* they are not only *inseparable* from each other but *also from matter.*

Perhaps you will say that absolute emptiness is also space, a "place" containing nothing, space without matter.

In the past it was actually believed that there is such space containing nothing–the "realm of emptiness". Today, however, scientists have come to the conclusion that there is no such empty space in nature. In a vacuum tube, for example, from which all gas has been pumped out, there still remain individ-

ual atoms, electrons and other particles. Interplanetary space is filled with interstellar gas, dust and disintegrating comets; meteorites, microparticles and light rays travel through it. And the last-named, as we know, are also matter.

It follows from what has been said that *space and time exist objectively*. The world exists apart from man, and the forms of its being are also objective.

Lenin attached great importance to the thesis of the objective existence of space and time. This thesis opposes the subjective-idealist view of space and time, the roots of which are to be found in the writings of the English 18th century philosopher, Hume, and the German philosopher of the end of the 18th and beginning of the 19th century, Kant. Both of them proceeded from the standpoint that space and time have no objective content. Hume considered that spatial-temporal connections are acquired in the course of experience. Kant, however, assumed that they exist in our mind prior to any experience. For that reason he called them apriori categories.

The fallacy of such a conception of space and time was shown by Lenin in his work *Materialism and Empirio-Criticism*. Basically erroneous, too, are the views of the Machists,* who merely revived the subjective idealism of Hume and Kant. Lenin showed that modern science confirms the materialist view of the objective character of space and time. The modern idealists try to falsify some of the major results of natural science, in particular of physics, so as to revive the subjective-idealist view of space and time. For this purpose they distort one of the most important discoveries of the 20th century, viz., the *theory of relativity*.

Relativity of time and space

Until the beginning of the 20th century the predominant opinion was that of the great scientist Newton, who held that space and time exist independently of material bodies. Space was regarded as a sort of vast box or infinite room without walls, ceiling or floor, in which all things could be placed. The world around us exists as it were inside this "box" or "room". Hence, Newton concluded that space is absolute, i.e., independent of matter. Similarly, time was

* Machism—a reactionary idealist trend in philosophy which owes is origin at the end of the 19th century to the Austrian physicist and philosopher Ernst Mach.

regarded as something absolute, unconnected with matter and independent of it. This was the view of mechanical materialism.

The great physicist, Einstein, who created the theory of relativity, adopted a very different approach to the question of space. He showed that space and time are not only connected with each other but also with matter, and depend on its properties. There is no absolute, single time in the universe. This can be seen from the following example.

What could be more natural than to suppose that time flows equally on the Earth and on a rocket moving with very great speed? But this is not the case. If the rocket moves with a speed approaching that of light, the passage of time in it will be considerably slower than on Earth. Imagine a journey in such a spaceship. We fly, say, for three years. But when we return to Earth we shall find to our surprise that 360 years have elapsed there! This is difficult to imagine, but it is the case. It means that the Earth and the rocket each have their own time. Time is relative and depends on the velocity of motion. The more rapidly a body moves in space, the slower is the passage of time for it.

Space itself, it turns out, is also relative. Imagine a train moving past a stationary platform with a speed approaching that of light. Would the length of the platform as measured by the driver of the train be the same as the length measured by someone on the platform? Mathematical calculations based on the theory of relativity show that the lengths would differ.

Train passengers find the platform shortened, and those standing on the platform observe that the train flashing past has shortened. This is no optical illusion but an objective fact. Space, therefore, is also relative.

Modern idealists try to distort this scientific discovery as well. They say: since space and time are relative, they do not exist objectively, they are subjective categories. But this is not true. This is another example of what we encountered when dealing with matter. The new discoveries have not refuted the materialist conception of space and time. They have merely refuted the previous metaphysical conception of them. In the terms used by physics, each system of co-ordinates has its own time, which is relative to it. But time exists objectively, as also does space.

The world is infinite in space and eternal in time

Space is infinite and time eternal. Hence the world extends infinitely in all directions. And it has no beginning in time and will have no end. This is an important conclusion. If the world is infinite, the religious fables of "the end of the world" fall to the ground. If the world is eternal in time, the assertions of the Church that there was a time when it did not exist, and that it was "created" by God, are utterly false. The struggle over this issue has been very sharp.

Science entirely confirms the materialist doctrine of the infiniteness of the world and of space. Our planet Earth is a minute grain in the boundless ocean of the Universe. Distances in the latter are measured not in kilometres but in light-years, i.e., the distance travelled in a year by a ray of light travelling at 300,000 kilometres per second. Astronomers now investigate stars which are over a thousand million light-years from us. That means that even if a rocket travelled at a speed of 50,000 kilometres per second it would take thousands of millions of years to reach such a star!

If you look at the sky at night it seems sown with stars. The stellar system to which these belong, and which includes the Sun, is called a Galaxy. It includes about 150,000 million stars. But there are many millions of other galactic systems. Scientists have been able to study them by modern instruments, very powerful optical and radio telescopes. But this does not show any "end of the world".

Consequently, *the Universe is endless, boundless.* That it had no beginning in time has already been pointed out. Hence the attempts of the idealists and the Church to make out that the world had a beginning and will have an end are of no avail.

When science reached the conclusion that the energy of the Sun and other stars arises by synthesis from hydrogen nuclei, the idealists began to assert that since the amount of hydrogen in nature is limited, the stars will be extinguished when the nuclear "fuel" is exhausted, leading in the long run to the death of the Universe. A meeting of astronomers convened by the Vatican even calculated the exact time when the end of the world would begin: after 10,000 million years. But these conclusions are refuted by science: besides the process of

"burning up" of hydrogen, there is also a process of its formation or renewal.

Idealists have also tried to use the discovery of "super-novae" stars* as proof of the future end of the world. By exploding, these stars expand like a soap bubble to enormous dimensions. The Vatican scientists say: the Sun is also a star, it may explode, and that will be the "end of the world". It was shown, however, at the International Astronomical Congress in Moscow in 1958 that only stars of a special kind are capable of exploding, and the Sun is not one of them. Hence, there is no danger of an explosion threatening the Earth.

Deprived of any possibility of proving assertions about the "end of the world", various religious preachers have resorted to direct provocation, predicting the exact time of its coming. But they have always been proved wrong, thereby showing the worthlessness of religious claims about the "end of the world".

Recognition of the objectivity and eternity of space and time is an inseparable feature of materialism. If it is supposed that the Universe is limited in space, the question inevitably arises: what then is there beyond the limits of the Universe? The Church asserts that it is the realm of supernatural powers. Beyond the limits of the Universe is the dwelling place of the "blessed", of angels and divinities, in short–the "other world". Can there exist some "other world" than the material one?

The unity of the world

Science has conclusively proved that there is not and cannot be any non-material "other world". In point of fact, if nothing exists except matter there can be only one, material world. Hence, Marxist philosophy teaches that the *world is a unity*. This must not be taken to mean there is no other world than that in which we live. Long ago, the Italian scientist *Giordano Bruno* (1548-1600) proved that there is a multitude of worlds. But they are all of a material nature. In this sense they constitute a single material world. Moreover, the unity of the world signifies that all objects, phenomena and processes are interconnected so that they constitute not a heap of isolated objects, but a united whole.

Wherein lies the proof of the unity of the world? In the long and laborious development of philosophy and natural science, Engels answers. In olden times, when people had no

* The name given to stars which suddenly explode.

scientific notion of the Sun, planets and stars, they considered that the "heavenly world" (stars, Sun, Moon) was quite different from the earthly one. Thus the idea arose of two worlds. Gradually, however, as science developed, the cloak of mystery was removed and it was found that the "heavens" were just as material in their basis as the world in which we live.

The first powerful blow to religious and mystical conceptions was delivered by *Nicolaus Copernicus* (1473-1543). He put forward the view that the Earth was not the centre of the Universe, but one of the planets of the solar system. It was shown that the Earth could not be contrasted to the "heavens", and that the latter have no supernatural character.

In the 18th century Newton proved that the same laws of mechanics which govern the motion of the Earth around the Sun cause the Moon to revolve round the Earth, and the other planets also to revolve round the Sun. When a Soviet rocket reached the Moon this was a striking confirmation of the fact that the same force of "universal gravity" that causes a body to "land" on the Earth caused the rocket to "land" on the Moon. Is this not the best proof of the universal nature of the laws governing all phenomena in the world, whether on Earth or in the "heavens"?

The heavenly bodies consist of the same chemical elements as the Earth. This is evident, for example, from the bodies that reach us from remotest regions of space, e.g., meteorites. Their main constituent is iron, a chemical element of widespread occurrence on the Earth. This is clear proof that there is nothing non-material about these "heavenly messengers".

And what should one say about the flight of spaceships around the Earth? They have visited the place where "heaven", the "other world", was supposed to be according to religion. The cosmonauts did not find any heaven, angels or saints. It would be difficult to find a better refutation of the religious myth of some kind of other, "heavenly", world.

It is not enough, however, to recognise the unity of the world; the nature of this unity must be correctly understood. Referring to the analysis of this question by Engels, Lenin wrote that the unity of the world can be deduced either from thought or from objective reality, matter. Anyone who deduces the unity of the world from thought or consciousness gets into a muddle and arrives at belief in God. This can be

seen from the example of the German philosopher Dühring, who declared: the world is a unity because we think of it as a unity. Engels sharply criticised this view. He said you can think whatever you like but what does not exist does not therefore become material. The unity of the world must be deduced not from thought but from objective reality, from matter.

This implies that there is no phenomenon in the world which is not the result of the motion, the development, of matter. Matter embraces everything, its action extends everywhere, and there is not and cannot be anything but moving, developing matter and its products. This means that there is only one, material world. On this account Engels points out that *the unity of the world consists in its materiality*. In other words, *the world is a unity because it is of a material nature.* It exists apart from and independent of human consciousness. But what is consciousness? We shall now examine this question.

FOURTH TALK

MATTER AND CONSCIOUSNESS

Immortality and the "soul" From time immemorial people have wondered why it is that after death a person ceases to think, move or speak. "It is because the soul has left the body," some answered. Death is the separation of the soul from the body.

Body and soul! For countless centuries people have tried to guess at the relationship between the body and what is called the soul or, more correctly, human consciousness. But it proved incredibly difficult to solve this problem. How can one study something that is invisible, colourless and odourless, that cannot be heard or touched. For such is our consciousness, thought, sensation. No one can feel my pain except myself. No one knows what I am thinking unless I speak about it. What then is thought? For centuries idealists and the Church have speculated about these questions.

The Bible says that God created man out of clay, earthly dust. This dust would have remained dead if God had not given it a soul. Only then did it begin to live, move and think. The source of life and thought, according to religious teaching, is the soul, the spiritual principle. It is the "divine spark" in man. Without the soul, the body cannot exist, is dead.

But the soul, it is alleged, can quite well do without the body. It enters the body at birth and leaves it at death. To this day recognition of "life beyond the grave" is the main basis on which all religious sects rely. This is because it is just here that the churchmen can give the freest rein to their imagination. "Who can check what we say?" they think. "There are no witnesses." Nine centuries ago the Persian

scientist, philosopher and poet Omar Khayyam stressed this idea:

Strange, is it not? that of the myriads who
Before us pass'd the door of Darkness through,
Not one returns to tell us of the Road,
Which to discover we must travel too.

"Witnesses", however, have been found but we shall speak of that later.

What is important now is to clarify the nature of the idealist-religious conception of the relation between the material and the spiritual. It consists in the following: 1) the spiritual (consciousness) exists prior to the material; 2) the former can exist without the latter, i.e., it does not depend on it. The material is "mortal", destructible, whereas the ideal is eternal, indestructible.

Let us see, however, whether this is true.

Is there consciousness without matter?

Consciousness includes thoughts, sensations, ideas, wishes. They are primarily characteristic of human beings. Without someone who senses, there are no sensations; without someone who wishes, there are no wishes. There is no will, if there is no one to display it. Apart from man, outside him, neither will, nor sensations, nor wishes, nor other manifestations of consciousness, mind, thought, ever occur.

As you know, nature, matter, existed even when man with his consciousness, his mind, had not yet come into existence. Hence, it is clear that nature, matter, is primary and consciousness, thought, is secondary. It may be asked: since there were other living organisms prior to man, did they not possess consciousness? It is true that some animals, too, possess rudiments of consciousness. They may have, for example, the sensation of colour or smell and a certain degree of imagination. But even these rudiments of consciousness arose comparatively recently, when animals first appeared on Earth.

It follows from what has been said that *nature existed* not only prior to man but prior to living organisms in general and therefore *independently of consciousness*. It is *primary*. But *consciousness* could not exist prior to nature. It is *secondary*. This is one of the major proofs of the materialist solution of the fundamental problem of philosophy. But it is not the only one. Some of them you know from daily experience.

It was noticed long ago that a serious wound to a limb could cause fainting: loss of consciousness. Science has established that fainting–loss of consciousness–arises as a result of cerebral anaemia, acute disease of the cardio-vascular system, serious trauma or loss of blood. Hence, consciousness depends on processes taking place in the body, brain or nerves. It is well known that a drunkard gradually destroys his bodily organism: the heart action deteriorates, the liver "gives up", digestion is impaired. As a result the drunkard loses his human characteristics: his consciousness is clouded, he speaks thickly, at times things go as far as complete loss of consciousness. Impairment of the body leads to impairment, or loss, of consciousness.

Here is another example. Everyone knows that if you are tired or do not feel well, it is difficult to think. On the other hand, it suffices to take a rest or physical exercise in order to feel better and be able to think clearly again.

Thus, we again reach the conclusion that there is not and cannot be consciousness without matter. But is all matter capable of thought? It is enough to look at the world around you to be able to answer no. A stone, for instance, does not think, nor does any inanimate object. Many organisms show no signs of consciousness. When then did consciousness arise?

Consciousness is a product of highly organised matter

Modern science has proved that *living nature arose from non-living nature.* This is a very important conclusion. Idealists maintained that living nature has nothing in common with non-living nature. Animate and inanimate objects, they argued, are quite different from one another. Only the former are able to move, multiply and grow. The difference is indeed vast. No explanation of what was common to both of them could be found. So the opinion was formed that the living organism is actuated by a special "vital force" implanted by God, and that this makes it quite different from non-living nature. Is this view correct?

A living organism differs, of course, from non-living nature. At the same time the two are inseparably linked. The living organism, for example, consists of chemical elements such as carbon, hydrogen, oxygen, iron, sulphur, phosphorus, etc., which are the same as those often met with in non-living nature. The living organism does not possess a single element that is not found in non-living nature. The connection between

the two is obvious. By analysing such facts, science proved that living matter is derived from non-living matter.

The Soviet scientist, Academician Oparin, has advanced a materialist hypothesis of the origin of life on Earth from non-living matter. But the origin of life on Earth, of the first cell, does not mean the appearance of consciousness. Only the first rudiments of consciousness came into existence at the same time as life.

Consciousness is bound up with the nervous activity of a definite part of the big cerebral hemispheres. As was shown by the Russian scientists *Ivan Sechenov* (1829-1905) and *Ivan Pavlov* (1849-1936), it is based on physiological processes taking place in the higher sections of the brain. These sections of the brain are themselves the product of a long evolutionary history, in the course of which the nervous system developed and its activity became more complex. Animal behaviour also developed and became more complex, until at last the human brain appeared and with it human consciousness.

The higher manifestations of nervous activity are bound up with the cortex of the big hemispheres. This is clearly seen by comparing the development of the nervous system and the corresponding increasingly complex behaviour of animals. In fishes, for example, owing to the absence of a cerebral cortex we encounter only the simplest reflexes.* The reflexes of birds are much more complicated, since they possess the elements of a cortex. The reflexes of dogs are still more complex, their cortex being much more highly developed. And in the anthropoid apes every voluntary movement depends on the cortex of the big hemispheres. Nevertheless in the case of animals one cannot speak of thought in the true sense of the word. Thought is human thought, bound up with the emergence, during the process of evolution, of the highest form of the motion of matter, that of the human brain.

Thus, *consciousness is a product only of highly organised matter, a product of the activity of the brain. Consciousness is a function of the brain. It cannot exist without the brain, which is its material substratum.* Sechenov wrote: "Man's whole boundless world of consciousness, feeling, thought and

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* A reflex is the reaction of the organism to a stimulus from the environment, which takes place with the participation of the nervous system.

will is governed by the activity of the big hemispheres." Pavlov, who continued Sechenov's work, showed that mental activity is based on material processes taking place in the human brain. These are physiological processes located in the big cerebral hemispheres. "Mental activity," Pavlov wrote, "is the result of the physiological activity of a definite mass of the brain."

Another proof of the non-existence of the soul

Let us begin the story of this interesting case with the actual words of its hero. "Shortly after my death I returned home and entered technical school," related V. D. Cherepanov, recalling a very important episode in his autobiography. This is how it happened.

Cherepanov, a Soviet soldier, was severely wounded during the last war. "Acute loss of blood, third degree shock," said the doctors. In hospital his condition went from bad to worse. He lost consciousness. After some time, the case history records: "Death from severe loss of blood and shock, 19 hours 41 minutes, March 3, 1944." The patient was dead. But then surgeon Professor Negovsky came to the hospital. He was making a tour of front-line hospitals with a team of doctors. By special, complex means they brought Cherepanov back to life. His heart began to beat again, breathing was restored.

When they asked the ex-corpse if he knew what had happened to him, he replied: "Yes, I was brought back from the other world, for I was dead." "What did you see in the other world?" "I lost consciousness before I died and I did not regain it until after the operation. . . . I was asleep during my death."

And so, a witness had returned from the "other world" and he had not discovered anything there! If death is the migration of the soul to the "other world", then Cherepanov's resurrection should mean the "return" of his soul from that world. But nothing of the sort happened.

Consider this example carefully. What actually happened? The organism was living and working, consciousness, too, was active. Then, as the result of severe loss of blood the human organism lost a number of its vitally important functions, following which consciousness disappeared. The man died. But his consciousness was not transferred to the "other world". It simply disappeared with the disappearance of these vitally important functions. Subsequently, the doctors

operated on his body by purely material means and consciousness was restored!

It cannot but be agreed that this is proof that consciousness depends on the body, in fact on the brain. This is confirmed by the fact that life can be restored if death has occurred not more than 5-7 minutes previously. After a longer time processes take place in the brain which lead to its definitive destruction. In such a case, the heart's action can be restored, but not that of the brain, in which so-called irreversible processes have taken place. Consciousness is irretrievably lost because the work of the brain has ceased for ever. Thus science has furnished yet another argument confirming the dependence of consciousness on matter.

The Russian revolutionary democrat, Herzen, wrote that the assertion that the soul could exist without the body was like saying that a black cat could go out of a room leaving the black colour behind. Just as a swallow cannot fly without wings, so the soul cannot exist without the body. The body decays, and with it the "soul", i.e., consciousness.

What is the nature of thought which is produced by the brain?

Thought is the reflection of reality

Take any thought, any utterance, such as: "I see a birch tree" or "The plan was fulfilled 107 per cent." It is shown that what we have in mind is not the birch tree but the thought of it, not the plan but the thought of it. In other words, we have in our minds concepts of the objects and phenomena that we have encountered in the world. All thought consists of such concepts. In the statement "snow is white", for example, the thought is expressed by the concepts involved in the words "snow" and "white". Where do these concepts come from? They come from life, from reality. Snow really is white. *Objects exist objectively and they are the basis of the concepts that we form of them.* The birch tree exists first, and then comes my concept of it. *Concepts,* therefore, are *secondary.* Reality comes first and then the reflection of it in thought. That is why Lenin called thought a copy, reflection or photograph of reality. Reality is reproduced, copied or photographed in thought.

We have explained that nature, matter, existed at a time when there was no consciousness, for it had not yet arisen. Man's consciousness depends on the state of his organism,

his nervous system. Thinking is performed by the brain, which is the organ of thought; consciousness is the function of the brain. Consciousness reflects being; hence being is primary and consciousness secondary, derivative.

Criticism of vulgar materialism

It must be pointed out that the mere recognition of the secondary nature of consciousness is not enough. It is essential to know its true nature as well, for there are materialists who admit the secondary nature of consciousness but who cannot correctly explain its true nature. They say that the brain secretes thought just as the liver secretes bile. In their view, thought is a secretion of the brain, which makes it and secretes it just as the internal secretory glands make and secrete other substances necessary for the physiological activity of the organism. The philosophers who hold this view of thought are called *vulgar materialists*, because they conceive thought in a crude, vulgar, over-simplified way. This view was advocated in the 19th century by the German philosophers Karl Vogt and Ludwig Büchner and the Dutch philosopher Jacob Moleschott. Engels called them cheap peddlers of materialism.

Some modern bourgeois philosophers follow in their footsteps, nor are they alone to do so. Some British doctors, for instance, assert that they have succeeded in "weighing the soul". They say it weighs 30 grams. This is a vulgar conception because the whole complicated process of thought is crudely reduced to a matter of 30 grams in weight. Consciousness is identified here with matter. But if that were the case, why can't it be seen? Starting from such a notion it is impossible to understand what our desires, will and thoughts are. For they are of an ideal rather than a material nature. And fantasy is not only not material, but may even be about things that do not even exist in nature. Vulgar materialism cannot answer these questions.

Idealists try to exploit the importance of the vulgar materialists in order to discredit materialism as a whole. Thus, the contemporary bourgeois philosophers Wheelwright and Hospers maintain that materialism recognises only what is material and denies the existence of the spiritual, consciousness and human volition. In other words, they identify the vulgar materialist standpoint of Vogt, Büchner and Moleschott with Marxist-Leninist theory. They could not be more

mistaken. Dialectical materialism has nothing in common with vulgar materialism. Its conception of the essence and significance of mind, of consciousness, is aimed not only against the idealists, but the vulgar materialists as well.

Lenin sharply criticised the vulgar materialists for their identification of consciousness with matter. He showed that consciousness is not of a material nature. It is a copy, an image, of reality. But the brain does not reflect or photograph reality like an ordinary camera. Reality is transformed in the human brain in the sense that it is not the objects themselves that are to be found there, but their ideal image. Marx wrote of our thought: "The ideal is nothing else than the material world reflected by the human mind, and translated into forms of thought."*

We have seen that human consciousness is the property of highly organised matter, the brain, to reflect reality. Thought must not be confused with the processes that go on in the brain. These processes are the material basis of thought. But thought itself is a more complex phenomenon than the physiological processes taking place in the brain. Consciousness, thought, is the highest form of the motion of matter.

Human thought is fundamentally different from what is sometimes rather inaccurately called "thought" in animals.

Thought and speech

Experiments with monkeys have provided interesting findings. An apple is presented to them but they cannot reach it because a fire stands in the way. However, the monkey is "taught" that he can take water from a nearby barrel, extinguish the fire and obtain the apple. And he does obtain it in this way. The monkey is then faced with new conditions. The apple is on a board on a pond and a barrel of water is put some distance away. The task is the same: to extinguish the fire and reach the apple. The monkey can take water close at hand, the board is surrounded by it. But the monkey laboriously fetches "the" water that is in the barrel.

What does this experiment show? It shows that monkeys do not form the concept "water"; its general properties are unknown to them. The monkey's thought is *directly* connected with surrounding objects. Moreover, it is impossible without direct connection with them. Hence, the monkey "thinks"

* Marx, *Capital*, Vol. I, p. 19.

only when objects are in front of it. Then it discovers the elementary connection between them. But if the objects are not in front of it, it cannot "think".

Man's thought, on the other hand, is qualitatively different. He becomes acquainted with objects in the course of labour and scientific activities and studies their properties. He notices that water in a barrel, a pond, a well, a river, etc., has the same properties, its ability to extinguish fire, for example. He forms the concept "water". This is not water in any particular place, but "water" in general. It is an abstract concept. In this case, man abstracts from the actual forms, from concrete objects, and singles out their common properties. These characterise the object contained in the concept in question.

When we speak of the concept "tree", we are concerned with the general properties that characterise any tree, and not those belonging to a particular tree visible from a window. We are abstracting from actual trees. That is why the concept is called abstract. It is this characteristic feature of human thought, its abstract character, that is unattainable by animals. Why is this?

The point is that the development of the human brain from early childhood proceeds under the decisive influence of speech. When at about nine months a baby begins repeatedly to say "mama" this is a sure sign that it is beginning to make out what is happening in the world. How does this occur? On the basis of two sources: the child's poor experience of life and the words of people around him.

A child plays with a ball. He discovers that it is round and soft. He plays with various kinds of balls, yellow, green, etc., and each time perceives "this ball". In time the word "ball" evokes in him the idea of a "ball in general". He now knows the concept "ball". And it is expressed in a word. Our thoughts, too, are expressed in speech. But we have already pointed out that our thought is abstract, it takes place on the basis of general concepts.

What makes it possible for us to abstract, to single out, the principal features of an object from the object itself. The possibility is given us by words, speech. The word "ball" indicates that it is a question of ball in general, and not merely a particular ball. *Abstract thought cannot be expressed except in words.*

From childhood *man's consciousness is formed on the basis of words, of language,* for our thoughts are expressed by means of them. In the process there gradually arises something that is characteristic of man alone: thought becomes closely bound up with speech. Human consciousness, thought, cannot be separated from speech. An *indissoluble, organic unity of language and thought* becomes established.

Engels stressed that it was the appearance of articulate speech that enabled the ape's brain to develop gradually into the human brain. How did this happen?

The following example may help us to find the right answer. History records several examples of children being reared by wolves. One such case was discovered in India in 1956. A she-wolf carried off a little girl less than three years old. When found some years later the child ran about on all fours, imitated animal noises and, of course, could not speak. It is not surprising that the child copied the animals in everything, but there is one curious detail. All efforts to teach the child to speak ended in failure. The human characteristic, consciousness, of the little girl was not restored. She could not become accustomed to the new conditions of life, and died (not a single child in the known cases of this sort has ever survived beyond childhood).

Social nature of consciousness and speech

The following question arises here. The child was born with a normal human brain. As she grew, her brain obviously grew as well. Why then did she prove to be so hopelessly backward in the ability to think? On the basis of what we have said, you can easily answer this question for yourself. It is evidently not enough to have a biologically normal brain in order to display human consciousness. One must also live in society, in a collective. *Outside of the collective there is no human thought.* It arises as a result of man's life in society. Thought can make its appearance only when, on the one hand, it reflects nature and, on the other hand, when man enters into definite relations with other people in the course of labour, productive activities. *Labour created man, human society.* It is through labour, productive activities, that man's brain, his consciousness, developed. That is why Marx points out that from the very outset *consciousness is a social product* and will remain so as long as people exist. Consciousness is a

product of man's life in society. It is a social phenomenon.

This implies that outside of society there can be no consciousness, just as there can be no speech or language. Thought arises and develops only in the process of labour, productive activity, for only under such conditions can man actively influence nature. By acting on nature, man develops also his consciousness. It is only in the process of labour that man more and more profoundly reflects objects in his consciousness, compares them, notices what is common to them and forms definite concepts. In the course of practical activity, too, man studies the connections and relations existing between objects. Thus gradually, as material production developed, human consciousness also developed and became perfected.

Engels revealed the process of the shaping of thought and language in his essay entitled "The Part Played by Labour in the Transition from Ape to Man". He showed that the first step in the transition from the ancestral anthropoid ape to man was the achievement of an erect gait. And this came about because man began to use natural implements of labour. Thus man's fore-limbs became free and began to be perfected in the course of labour activities, gradually leading to the development of the human hand. It is not only the organ of labour but the result of labour.

The employment of natural implements, however, is still not labour in the true sense of the word. Labour itself has also undergone development in the course of history. True labour began only when man artificially created the first implements of labour. The ape can use natural implements, but cannot make them. The making of the first implements, however, did not yet mean the emergence of human society. It was only the beginning of the long process that led to the transformation of the ape into man and, therefore, to the shaping of consciousness. This was the period of the shaping of man and human society.

Speech, too, arose during this period. The point is that during the process of joint labour, production, people felt the need to speak to one another. This need, said Engels, led to the development of an appropriate organ; the undeveloped larynx of the ape underwent a gradual but steady transformation, and the organs of the mouth gradually learnt to pronounce one articulate sound after another. Thus arose

articulate speech, language, as the *means of exchanging thoughts, the medium of intercourse between people, the material envelope of thought.*

The unity of language and thought follows from the very nature of the latter. It is only in words that thought, as it were, becomes real. While inside a man's head, thought is, as it were, dead and inaccesible to other people. Hence Marx pointed out that language is the immediate reality of thought. This means that thought does not exist outside of the material envelope of language. Even when we do not express our thoughts aloud, but only think to ourselves, we still clothe them in the dress of words, of language. Thanks to language, thoughts not only take shape but are transmitted to other people. And by means of writing they are even handed down from generation to generation.

Yet it would be a mistake to conclude from the above that language and thought are identical. They are parts of a unity but they are not one and the same phenomenon. Thought reflects reality. Language, however, is a means by which thoughts are transmitted to other people. Thought is directly connected with reality. Language is connected with reality not directly but through thought. This signifies that the brain directly "photographs" phenomena and their connections in the world, giving rise to our concepts and thoughts. By means of language we only transmit them to other people.

In this connection, the following question often arises. If thoughts reflect or photograph reality, how are we to explain the existence of fantasies, fancies, to which no object in nature corresponds?

Materialism, dream and fantasy

For example, when there was as yet no artificial Earth satellite, the Russian scientist Konstantin Tsiolkovsky, a father of rocketry, "envisaged" it already in the early years of the present century. Does this not indicate that thought is primary and not secondary? Does it not contradict materialism?

Lenin noted that the existence of fantasy inevitably confronts people with such questions. The opinion may be formed that thought arises independently of surrounding reality. Here we have the roots of idealism: a basis is provided for drawing the idealist conclusion that thought can arise

apart from reality or even in defiance of it. Let us see whether there is any basis for such a conclusion.

Let us recall the following fact. At the beginning of the present century Lenin set about the creation of a party of a new type. It was just at this time that in his work *What Is To Be Done?* the leader of the proletariat issued his famous call: "We must dream!" What did Lenin dream of? He dreamt of a mighty Communist Party. It is well known how accurately his dream became a reality. It was not long before such a party was formed. *Life* itself, *reality*, gave rise to Lenin's dream, his audacious thought.

Tsiolkovsky's fancies were likewise rooted in reality, in mathematically exact calculations of the actual world, and on that basis he made his brilliant guess about what was necessarily going to come into existence. The space flights of the cosmonauts showed how real were Tsiolkovsky's dreams and fancies.

Thus you see that dreams and fantasies are also a reflection of reality and arise only on the basis of it. Reality lends wings to dreams.

It is clear then that materialism not only does not reject dreams and fantasies but, on the contrary, scientifically explains them.

Let us examine another question that often arises when thinking about the problem of the relation between matter and consciousness.

Materialism and man's spiritual wealth

If materialism denies the existence of the soul, does it not also deny such important human qualities as feelings, enthusiasm, passion, i.e., what may be called man's spiritual wealth? We are accustomed to saying, for example: "How soulfully he plays", or "He put all his soul into the work". What else is there to put if there is no soul? Is sometimes asked. The contemporary French theologian Pierre Bigo writes that materialism "refuses to recognise spiritual values", for it recognises only material values. Is this true? Of course not! It is a slander on materialism. Materialists reject the idea of the soul as a special non-material entity. But they do not deny man's inner, spiritual world. Nor do they deny man's spiritual wealth. It is an inferior writer who does not try to get at the soul of the reader, to influence his feelings.

The Soviet Communist Party has always been concerned not merely to multiply material wealth but also to develop the spiritual wealth of Soviet people. People's consciousness cannot be divorced from the conditions in which this consciousness takes shape; we have seen that consciousness reflects life, reality. The Communist Party establishes conditions for bringing out people's finer feelings, for inculcating a high level of consciousness in the builders of communism. The grandeur and beauty of their ideals are dear to the Soviet people. How pitiful, therefore, are the attempts of bourgeois "critics" of Marxism to ascribe to communism neglect of the spiritual, emotional aspects of the human personality. A telling refutation of these lying assertions of present-day anti-Communists is to be found in the new Programme of the C.P.S.U., every page of which testifies to special care for the education of Soviet people, the builders of communism.

Materialism, therefore, recognises the secondary nature of consciousness but does not deny its important role in man's life. Let us now examine this question in greater detail.

The active role of consciousness

The existence of dreams and healthy flights of fancy is itself a proof that consciousness does not passively perceive the world. In this instance consciousness, as it were, outstrips reality, actively affects it and indicates ways and means of changing it.

Consider, for example, the realisation of the plans outlined by the C.P.S.U. and the Soviet people. Here thought, consciousness, outstrips reality, shows it the way and gives the nation a gigantic creative impulse. Consciousness plays the part of an active mobilising force. Millions of workers take up great causes for the sake of the triumph of communism. It is in this sense that Marx said that when an idea captures the people it becomes a material force. It means that the people, inspired by a great idea, are capable of great deeds. That is how one should understand Lenin's statement that consciousness creates the world.

While reflecting reality, consciousness at the same time is a guide to changing it. Take Marxist-Leninist theory which has become today a powerful material force in the struggle for peace, democracy and socialism.

Idealists considerably over-exaggerate this aspect of human consciousness. They say: since consciousness is active, it is

therefore primary, basic; it is consciousness that guides people's actions. They claim that the active nature of human consciousness means the triumph of idealism. But is this so? The fact that consciousness guides people's actions does not mean that it is primary. On the contrary, all aims, tasks and plans for activity are taken by consciousness from reality, from this activity itself. This has been seen above.

What has been said about the activity of human consciousness helps us to analyse and correctly explain one of the most surprising phenomena of modern industry.

Thought and machine

You have heard about computers. They can carry out very complex tasks: translate from one language into another, guide an aeroplane, drive a train and even play chess. They can perform some logical operations that are characteristic of the human brain. They decide when a train has to be slowed down, they "remember" certain operations, etc. It is as if metal were endowed with human thought.

But could a machine be constructed that would wholly replace the human brain? No. It is true that the machine can faultlessly perform the functions for which man has adapted it. It can even discover new facts that its creator did not know. But it will always be merely an auxiliary to the human mind. Without man it is mere "dead metal".

Why is the human brain immeasurably superior to any machine? Because it is the product of social relations. Thought, too, as we have seen, has a social character. The work of the brain is as complicated as these social relations. But no "electronic brain" could "reproduce" man's inner spiritual world, his active nature, his flights of fancy, dreams, the ability to exert his will, the complex world of art.

We have examined some of the basic problems of dialectical materialism. To obtain a deeper understanding of them we must have a clear conception of the essence of Marxist materialist dialectics, which is revealed in its laws and categories. These we shall now proceed to study.

THE BASIC LAWS OF DIALECTICS. THE LAW OF THE PASSAGE OF QUANTITATIVE INTO QUALITATIVE CHANGES

What is a law?

To understand what we usually call a law, let us take the simplest possible example. If a stone is thrown into the air, it will fall to the ground. The same thing applies to an arrow shot from a bow.

What is the nature of these phenomena? How is it that they occur? Let us notice first of all that we are dealing here not with phenomena that may or may not occur, but with phenomena *that necessarily occur and cannot fail to occur.* An object thrown in the air necessarily returns to the ground under the pull of gravity. This means that a strict order, sequence, regularity prevails here. When we encounter phenomena of this kind in our practical activities, we say that there is a *law-governed, essential* connection between them.

Law is an essential connection between phenomena

There are often connections between phenomena that we are unaware of. What connection could there be, for example, between a coal mine and the electric light we use in our homes? The light is due to an electric current which is produced by a dynamo. The latter is driven by a steam turbine working on coal from a coal mine, or other fuel. Thus, the connection is obvious.

Let us consider another example. Agriculture provides raw material for industry, while the latter in turn produces machines, fertilisers and electricity for agricultural production. Nor is this all. The development of agriculture and industry sets definite practical problems for science. In solving them, science is enriched by new data taken from

practice. Science in turn influences the development of industry and agriculture. Thus the chief branches of the economy develop in close connection with one another.

From these examples, and from what was said previously, it can be seen that *the phenomena of nature and society do not exist in isolation from one another but are interconnected.* One thing depends on another, and the latter on a third, and there is no end to these connections, dependencies or, as they are called, relations. That is why Engels said that when we study nature or human history, we see an infinite interweaving of connections and interactions between objects and phenomena of the real world. Not all connections, however, and of equal significance. There exist accidental, changing connections, and also constant, profound, essential or, as they are called, law-governed connections.

A law expresses just these constant, profound relations. Lenin pointed out that a law embraces what is essential in phenomena. *"Law is essential relation"* * he wrote. In other words, *a law is a relation between things and phenomena due not to accidental, external, transient circumstances, but to the inner nature of the interconnected phenomena.* A law reflects not all connections but only the principal, decisive ones.

A law is a universal and objective connection

The above, however, does not exhaust the characteristics of a law. It is commonly said that a law has no exceptions. This expresses the nature of a law, viz., that it affects not some but all phenomena of a given type. Archimedes' principle, for example, holds good for all bodies immersed in any liquid. In other words, the connection expressed by Archimedes' principle (between the loss of weight of the immersed body and the weight of liquid displaced) is of a universal character. So it is with every law; it expresses something general in phenomena. Engels says: "The form of universality in nature is *law*."** *Thus a law acquaints us with what is most profound and universal.*

A law reflects not only a universal but also an *essential connection.* As evident from the examples given above, what it expresses must necessarily and inevitably occur.

In common usage the term "law" implies a rule that has a *legal* force. However, when we speak of a law in the philo-

* Lenin, *Collected Works*, Vol. 38, p. 153.
** Engels, *Dialectics of Nature*, p. 310.

sophical sense, we mean an objective law inherent in nature and governing nature's development.

Since objects and phenomena exist objectively, so also do the connections between them, i.e., the laws governing their development. Thus *a very important feature of a law is its objective character.* This signifies that the regularities in the development of nature and society do not depend on man's will and consciousness. All human practical experience is proof of this. Thus, the laws of nature operated long before human society arose. Human beings appeared on the Earth rather late, but the laws governing the motion of our planet are as old as the planet itself. The same thing holds true also for other laws of nature.

Social laws, too, are of an objective character. People cannot create or abolish them, nor can they arbitrarily "transform" them.

Idealist philosophers hold a different opinion. They deny the objective character of laws. In his day the German philosopher Kant asserted that nature itself has no laws. Everything is in a state of chaos and only the human mind introduces order and regularities into nature. If man did not exist there would be no laws. Modern bourgeois philosophers repeat this idea.

On what do they base their arguments? Kant said that as soon as we start to investigate any phenomena, we already look for laws. Hence the concept of law is already in our minds before we encounter it in reality. It is inherent in our reason but in actual reality there are no laws. For this reason Kant asserts that the category of law is of an a priori nature, since it exists in our reason prior to experience. But these arguments will not stand up to scientific criticism. As a matter of fact, because people *nowadays* look for laws of the development of the world, can it be concluded that they *always* did so? We nowadays look for bacteria in order to destroy them, but when people did not know of their existence they did not look for them.

The primitive savage had no notion of the existence of laws in the world, and so he did not look for them. Consequently, they were not "innate" in him. It was only later, when from practical life people learnt of the existence of law-governed connections between phenomena that they began to search for and find them in reality. It follows that assertions

about the a priori nature of the category of law are unscientific and contradict practice, which proves the objective character of the laws of nature and society.

Thus, *a law expresses a universal, necessary, objective and relatively constant connection between phenomena and objects of the existing world.*

What kinds of laws are there?

If laws establish essential connections characterising phenomena in some part of nature or of a particular society, they are called *definite* laws. Such, for example, are the laws studied by biology, physics and other sciences. If laws establish essential connections characterising *all* the phenomena of nature or all social phenomena, or all the phenomena of thought, they are called *general* laws. Such, for example, is the law of universal gravitation, which governs all the phenomena of nature. The law of the determining role of production operates throughout the history of society. This, too, is a general law. If, however, laws establish essential connections characterising all phenomena, whether of nature, society or thought, they are called *universal* laws. It is these that are studied by Marxist philosophy. They comprise: a) the law of the passage of quantitative into qualitative changes;

b) the law of the unity and struggle of opposites;

c) the law of the negation of the negation.

Some marvellous transformations

To construct an aeroplane capable of flying at a speed greater than that of sound, or to construct a spaceship, materials which do not exist in nature are required. How can they be obtained? How, for example, can we obtain an alloy stronger than steel but more transparent than glass? Chemistry gives us a key to the solution of this problem.

Scientists came to the conclusion that if one wants materials with new properties it is necessary to produce new combinations of big molecules. Thus, it was discovered how to create new polymers, molecules consisting of a huge number of atoms. It was found that by merely altering the number of atoms and the structure of the molecules, all the properties of a substance were sharply changed. Rigid became elastic, hard became soft, opaque became transparent. *By changing the quantitative composition of molecules, chemists began to create new qualities, new properties of substances.*

It immediately becomes apparent that there is some kind of connection, dependence, between quantity and quality. Is there not some kind of law here? The present talk is devoted to clarifying this question. First of all, however, let us examine what is meant by quantity and quality.

Quality and property

Everything has, as it were, its physiognomy by which we recognise it. Look around and you will see that any object–an inkstand, a tree, a man, etc.–possesses an *inner definiteness, i.e., features, aspects, signs,* which define it, express what is most important about it and characterises its essential nature.

Why do I say that this is a pencil? Because I have before me a thin rod of graphite enclosed in wood, which I can use for writing or drawing. Thereby I have defined the main properties of the thing, its inner definiteness, revealing that which makes it what it is–its quality.

Thus, *quality is a definiteness that is intrinsic, i.e., bound up with the object itself, a sum-total of all its essential features, thanks to which an object acquires a relative permanence and is distinguished from other objects.*

On what basis do we judge a quality? Recall the remarkable world of new materials of which we spoke above. Here is a fine thread to which a half-cwt. weight is attached. The other end of the thread runs over a pulley wheel attached to the ceiling and is pulled. "The thread will break, of course," we think. But it does not, it raises the weight. Here is another example. A little girl has bought a bottle of milk and accidentally drops it on the pavement. But the bottle does not break, it bounces like a ball.

If you saw these things you would note: in each case there is a new property, in the first–an unbreakable thread, in the second–an unbreakable glass. And you would rightly conclude: these are materials of a new quality. You discovered the new quality owing to the new *properties* that were revealed. We always act in this way. If we study, for example, the nature of a metal, it means that we elucidate its properties: its colour, atomic weight, whether it is soft or hard, whether it oxidises or not, and so on. By this study we learn its inner definiteness, i.e., its quality.

Thus *a property is a feature of a thing, a capacity characteristic of it, its peculiarities.* These intrinsic peculiarities

of things are their quality. It follows that *quality is manifested through properties.*

An object usually possesses not one but many properties. Hence, quality must not be identified with property. Quality is an inner unity, a sum-total of properties. That implies that the quality of a thing is not expressed by a single isolated property, but all of them taken together.

Quantity

Objects and phenomena are characterised not only by quality but also by quantity. This is easy to understand, for besides questions about the quality of objects (what they are in themselves) we are always faced with questions about their quantity (number, size, volume, etc.). This is not surprising, since all natural phenomena possess quantitative as well as qualitative definiteness.

The quantitative characteristics of objects and phenomena are of many different kinds. Hence, they are expressed in many different ways. If, for example, we are interested in the quantity of machines acquired by a factory we express it by the number of them: 3, 4, 10, etc. If we need to determine the productivity of labour, we express it by a percentage, which may be great or small, and so on.

Thus, *quantity is the definiteness of objects and phenomena characterised by number, size, rate, degree, volume, etc.*

When the quality of an object is altered, the object itself is altered. But does a quantitative change involve a change of the object itself? Let us examine this.

You probably know how a dam is constructed to close the channel of a river on which a hydropower station is being built. Huge concrete blocks are dropped into the river from lorries. For some time no dam is formed. But presently the number of blocks is such that the flow of water is substantially affected. After a few more blocks the river is cut. Out of the isolated blocks a dam has been formed.

What was it that happened? As long as the quantitative changes remained within definite bounds they did not cause the formation of a new quality (in this case the dam). But as soon as the required limit, a definite *measure,* was reached, the changes were no longer without effect on the whole process, as they had seemed to be at the beginning.

What is measure?

Measure The word "measure" is used to denote a limit of something, a boundary. This itself indicates that it is always connected with quantity. But measure is also connected with quality. How is this to be understood? The following example may help.

Look at a stone. It may be large or small, but stones have a definite size. It would not be a stone if it had a height of several hundred yards. That would rather be a rock. Measure is also a characteristic of man. People may be tall or of various heights. Their weight may also vary. Nevertheless there are definite limits to their heights, weight, etc. No one has seen a man 15 feet high or weighing, say, a ton. Such a quantity (a ton) is incompatible with the given quality (man). The same thing applies to all objects. They all have a definite quality to which there corresponds a more or less definite quantity. There is proportion in all things.

It is clear from the above that *measure is a conformity, a unity of the quantitative and qualitative aspects of objects.* It is precisely because every object is a measure that it is always a quality to which there corresponds a definite quantity. This correspondence, this measure, cannot be destroyed, since in that case the object ceases to be what it is. The quality of an object cannot exist in a unity with any quantity taken at random and, conversely, its quantity cannot exist in a unity with any quality taken at random. Quantity and quality always exist in a definite correspondence with each other, only within the limits of their measure.

A very important conclusion follows from the above, viz., if quantitative changes take place in an object, they do not affect its quality *as long as they occur within the limits of the measure.* Within these limits the object is, as it were, indifferent to quantitative changes. But as soon as the measure is upset, quantitative changes begin to be reflected in the qualitative state of the object. *Quantity passes into quality.*

Passage of quantity into quality Quantitative changes accumulate imperceptibly and gradually; at the beginning they seem not to affect the qualitative characteristics of an object. But this is only, as Hegel aptly expressed it, a "ruse". A time comes when this ruse is exposed and quantitative changes, by their accumulation, result in a change in the quality of an object. Examples of this were given above. When chemists learnt

to form new polymers and obtained new properties, new qualities, they were basing themselves on the law of the passage of quantity into quality.

It should be borne in mind that not only do quantitative changes lead to qualitative changes but, conversely, *qualitative changes lead to quantitative changes.* The appearance of a new quality is a fundamental change of the object or process. Hence, new laws of development are manifested in it. These qualitatively new objects with their new laws have, of course, new quantitative definiteness as well. A new measure is now established.

Plant breeders, for example, create a new variety of plant. This is a new quality. But the new variety gives a bigger harvest, that is to say, it has new quantitative characteristics. Here *new qualitative changes lead to quantitative changes. Quantity passes into quality and,* conversely, *quality passes into quantity.*

Thus, *the essence of the law of the passage of quantitative into qualitative changes consists in small, at first imperceptible, quantitative changes gradually accumulating and at some stage leading to radical qualitative changes, as a result of which the old quality disappears and a new quality arises which, in its turn, leads to new quantitative changes.*

But how is the passage of quantitative into qualitative changes accomplished?

Leaps

You will surely have seen how water or milk boils, or an egg is fried. At first the water merely becomes hotter. The temperature rises to 60°, 70°C or more. But the water remains water, it has not lost its quality. But when the temperature is raised to 100°C the water suddenly boils and is converted into steam. It has undergone a qualitative change. The same sort of change occurs when an egg is fried. The white and yolk suddenly set.

These examples make it clear how the passage of quantity into quality takes place. At first the process is slow and gradual, quantitative, preparatory changes take place. But when these changes have sufficiently accumulated, a process of sudden, rapid qualitative change occurs. This sudden change is called a *leap.*

Lenin defined a leap as an *interruption of gradualness.* This implies that at some point slow, quantitative development is

interrupted and the time arrives for passage to the new quality, a passage that is not slow and gradual. The passage to the new quality is a leap. That is why Lenin defines *a leap as a decisive turn from an old to a new quality, as a sharp break in development.*

In nature and society the emergence of new qualities is always accomplished by a leap. The passage from non-living to living nature takes place in just this way. All evolution of the organic world, i.e., the development of animals from one species into another, also takes place by leaps. Similar changes take place in human society. The passage from the primitive communal system to slave society and from the latter to feudalism, as well as the passage from capitalism to socialism is always marked by a leap, an interruption of gradualness.

The actual process of development takes place on the basis of the unity of continuity and discontinuity. At a certain stage the continuous, smooth process is interrupted. Then the new quality arises as the result of a leap. It should be borne in mind here that the leap is law-governed. That means that it is prepared for by the whole preceding course of the accumulation of quantitative changes. Naturally, therefore, there is no "miracle" involved in its occurrence.

Thus the answer to the question how quantitative changes pass into qualitative changes is that it is by a leap and only by a leap. We continually encounter examples of this in daily life.

Evolutionary and revolutionary forms of development

We have shown above that the process of development passes through two stages, taking place in two forms: slow, insignificant quantitative changes and rapid, fundamental qualitative changes. The former always proceed within the limits of the old measure, of the old quality. Here there are as yet no fundamental changes of objects and phenomena. In this sense they can be called evolutionary changes. *Evolution is a smooth, gradual, slow development without sharp leaps or transitions to a new quality.*

Development, on the other hand, that is connected with a fundamental break-up of the old, with a qualitative change of social relations, scientific conceptions, of technique, etc., is called revolutionary.

Thus dialectics does not deny the idea of evolution as such, the more so since the concept of "evolution" is often used as development in general, as the change of phenomena from one state to another. It is in this sense that the evolution of animal and plant species is spoken of. Lenin often used the concept "evolution" in this sense, speaking, for example, of "economic evolution".

It should be borne in mind, however, that the concept "evolution" is often distorted by metaphysicians. Dialectics strongly opposes the distorted "current idea of evolution", as Lenin phrases it.

Some metaphysicians maintain that development takes place only in an evolutionary way and that there are no leaps or interruptions of gradualness. Only quantitative changes occur in the world, they say. All development is merely growth and nothing more. There is nothing qualitatively new in nature. This is the view of what is called vulgar evolution, since it conceives evolution in a crude, vulgar, distorted way.

The vulgar-evolutionary view became particularly widespread in explanations of social life. Here, it was alleged, only smooth, slow, evolutionary changes occurred, without affecting the foundations of the social order. This metaphysical idea is made use of by reformists–Right-wing Socialists and Labour Party members–in order to defend the capitalist system. They reject the revolutionary struggle of the working class and try to replace it by a struggle for partial reforms and small concessions which do not affect the basis of capitalist society.

Lenin called reformism a bourgeois deception of the workers because power remains in the hands of the bourgeoisie even after the enactment of reforms. This has been fully confirmed by experience. The Belgian socialists, for example, have been in power for many years now but they did not introduce socialism. The reforms they carried out have kept the bourgeois order intact. The same thing occurs in other countries where Labour parties and Right-wing Socialists obtain power.

Modern revisionists try to revive these reformist illusions which were exposed long ago. A revisionist in the U.S.A., Gates, asserts that the struggle nowadays can only be for small reforms, that changes must be of an evolutionary

nature and that the only way to socialism is the path of "constitutional struggle".

Lenin exposed the revisionists because, in his words, they crawl into the bog of philosophical vulgarisation of science, replacing revolutionary dialectics by "simple" and "tranquil" evolution.

The reformists, therefore, are metaphysicians who see only one aspect of social development, the quantitative, evolutionary aspect.

The views of the anarchists, too, are metaphysical, but for another reason: they deny the evolutionary process of development. Instead they recognise only leaps, without any preparation, without a gradual gathering of forces. Lenin wrote that both anarcho-syndicalism and reformism must be regarded as a direct product of the bourgeois world outlook,* for they one-sidedly settle the question of the relationship of evolution and revolution in the process of development.

In contrast to these one-sided, metaphysical approaches to the question, dialectical materialism starts out from the fact that *there is a profound connection between the evolutionary and revolutionary aspects of the process of development.* This connection is such that one process is inconceivable without the other: *without quantitative, evolutionary changes there are no qualitative, revolutionary changes, and without qualitative, revolutionary changes there is no new measure, no new stage, and therefore no development.* "Real life, real history, *includes* these different tendencies, just as life and development in nature include both slow evolution and rapid leaps, breaks in continuity,"** wrote Lenin.

The stage of continuous, gradual changes plays a big part in the process of development. But it is not a change of the old quality. For this leap, revolution, radically altering the old quality, is absolutely necessary.

You see, therefore, that in practical life slow, laborious preparatory work must be combined with fundamental qualitative transformations. In this connection it should be borne in mind that qualitative changes have to be prepared gradually, in the course of day-to-day organisational work.

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* Lenin, *Collected Works,* Vol. 16, p. 349.

** *Ibid.*

When, however, a revolutionary alteration of the old quality has been properly prepared, the most energetic revolutionary action is required in order to replace the old by the new. Moreover, it is important to choose the correct moment for the leap so that it comes at the most favourable time for the revolutionary solution of the tasks set. Choice of the moment for revolutionary action is a great art. The October Revolution, the industrialisation of the Soviet Union, the collectivisation of its agriculture, the rehabilitation and development of its economy in the post-war period, the fight for the upswing of agriculture, the time fixed by the Party for beginning full-scale construction of communism in the U.S.S.R.–these are an incomplete enumeration of the major historical tasks which the C.P.S.U. set at the right moment and for which it made careful preparation. Therein lay the guarantee of the successes achieved by the Soviet people.

As we have said, the passage from one quality to another takes place as the result of a leap. Let us see what kinds of leaps there are and what they depend on.

Various kinds of leaps. Leaps in socialist society

That there are various kinds of leaps is evident from the examples already given. The transition from ape to man was certainly a leap in the development of the animal world, but it took tens of thousands of years. Another form of leap is that seen in the boiling of water. By taking place almost instantaneously it differs from the previous example, where a comparatively long period was required for fundamental changes.

The time factor plays a big part in determining the form of the leap. The Russian Revolution of 1917, for example, put an end to bourgeois power there in literally a few days. It was a decisive blow against the bourgeois dictatorship. But the collectivisation of agriculture, which was a revolutionary transition of the Russian peasants to socialism, was accomplished gradually, step by step, over several years. This discrepancy lies in the difference in the nature of the two phenomena, as well as in the difference in the conditions under which they took place. Hence the forms of the passage to a new quality, the forms of the leap were different.

The period of socialist changes in the Soviet Union occupied about two decades. Lenin called such periods an epoch of "*big leaps*". He ridiculed those who considered that because

the passage from capitalism to socialism is a leap it must be an instantaneous act. Very often the passage to a new quality takes place not in the twinkling of an eye, but during a relatively long period of time. Yet this is also a leap. In this gradual passage to a new quality there is also an interruption of gradualness, and periods of the most intense development of social life occur here. Thus, in contrast to leaps that take place intensively, rapidly and alter the qualitative state of an object in a short time, there are leaps that do not immediately alter an object or a quality.

It will be clear now that the different forms of passage from one quality to another, i.e., *the different forms of leaps, depend on the nature of the developing phenomena and on the conditions in which they develop.* This is especially obvious in examples from social life. Where society is divided into hostile classes, a leap occurs as the result of a showdown. In the development of socialist society, however, where there are no hostile classes, leaps, *sharp turns,* take place *by the gradual dying out of elements of the old and the growth of elements of the new quality.* Here radical changes begin as new qualities are accumulated.

The entire history of Soviet society is one of qualitative changes in the spheres of economy, culture and science. Former tsarist Russia was converted from an economically backward country into a mighty industrial power—an invincible bulwark of socialism. And this leap was accomplished gradually, without social upheavals. This clearly shows the unity of slow, quantitative changes and fundamental, qualitative changes.

One of the great achievements of socialism, too, has been the cultural revolution in the U.S.S.R., which has given it a leading place in the world for its science and technology. This is also a leap, but it was also accomplished gradually. First of all, illiteracy was abolished, then work began for developing the number of the Soviet intellectuals and conditions were created for the development of science, and so on. This leap is still going on at the present time. Similar leaps are taking place in the People's Democracies.

The period of the accomplishment of complete communism is also a leap in the social development of the Soviet Union. It involves raising society to a qualitatively new level both in the economic sphere and in the sphere of culture, political

life and science. This leap is by no means an instantaneous act. The development of socialism into communism is a process that takes place continuously, gradually. The first shoots of the new, communist attitude to labour, of the new relations between people, grow and develop in day-to-day life.

The fulfilment of the tasks set by the new Programme of the C.P.S.U. will result in society reaching a stage in which the features of communism, already visible in it, will become absolutely predominant. This will be a new qualitative state, where communist society will have been raised from the first phase to the second. This is a leap in the true sense of the word, although it takes the whole of twenty years. Thus the dialectics of development of socialist society organically combines gradualness, continuity, with development by leaps, discontinuity.

Thus, *development under socialism and the gradual growth of the latter into communism combine both quantitative and qualitative changes into a dialectical unity.* That is why reforms during this period acquire a totally different significance.

The reforms accomplished by the Communist Party and Soviet Government acquire a revolutionary significance. They are no longer merely quantitative, preparatory measures but directly introduce qualitatively new elements of vast importance into the development of social life.

For example, the law adopted by the Supreme Soviet of the U.S.S.R. on strengthening the links between the school and production and on the further development of education in the U.S.S.R. is not an ordinary "scholastic" reform. Under socialism, the improvement of secondary and higher education is essentially a question of cadres, of leaders of production, a question of developing the might of the socialist state. It is a revolutionary measure, the solution of an important political task. *Thus, reforms themselves have a new revolutionary content.*

The conclusion to be drawn is that the law of the passage of quantitative into qualitative changes reveals the inner mechanism of the formation of new qualities, i.e., the basis of the process of development. But what is its driving force, its source? This question is answered by the second law of dialectics—the law of the struggle and unity of opposites.

SIXTH TALK

THE LAW OF THE UNITY AND STRUGGLE OF OPPOSITES

Permissible and impermissible contradiction

You have all probably had some occasion to refute an assertion that seems to you untrue. "You are contradicting yourself," you say, if you succeed in discovering a contradiction in your companion's argument. That is to say, you catch him out at being inconsistent.

Our thought can only be correct if it is free from contradictions. If I say of a group studying philosophy: "They have all done very well" and then say of the same group "some of them have done badly", you have every right to object: "How can you say quite different things of the same people at the same time? Only one can be true." And you would be quite right.

Such contradictions are called *formally-logical* contradictions. They are revealed by the science of correct thought—formal logic. Thoughts or statements that contain a contradiction are inconsistent, incorrect.

But on the grounds that there should be no logical contradictions, can we conclude that there cannot be any kind of contradictions in nature and society? To make the point of this question clearer let us see what happened at a philosophy class when the lecturer spoke of the impermissibility of formally-logical contradictions.

"Are there contradictory aspects or tendencies in objects and phenomena?" asked the tutor.

"Of course not," answered one of the students. "You have just said that there cannot be any contradictions."

"Recall then, for example, how the atom is constructed. It has both positively and negatively charged particles. Thus I am asserting something contradictory about the atom: that it is both positive and negative. And this is a proved scientific fact."

You may say: just now you rejected the very possibility of formally-logical contradictions, but now you speak of contradiction as a scientifically proved fact. How can this be? This is a very complicated question and cannot be dealt with in a couple of words. Let us examine it in more detail.

The question of contradictions has occupied the minds of thinkers for a long time. Metaphysicians, for example, starting out from the fact that there ought not to be any formally-logical contradictions, maintained that there ought not to exist in nature any contradictions, opposite qualities, aspects or definitions. Long ago the Greek philosopher Zeno, who lived in the fifth century, B.C., tried to show that contradiction, no matter where discovered, is something untrue, impossible and inconceivable.

Some modern bourgeois philosophers adopt the same standpoint. The reactionary American philosopher Sidney Hook, for example, says that "propositions or judgments or statements are contradictory, not things or events".*

But the example of the atom shows that there are contradictions, opposite aspects, in things themselves, in nature. Look at the human or animal organism and you will find that two contradictory processes are simultaneously taking place in it: its cells are at once growing and dying. If either of these processes ceases, the organism perishes. Such examples are to be met with at every step. We shall have many occasions to say more about this. There are contradictions in nature itself and you cannot get away from them.

Why do they exist, and why are they bound to exist? To understand this we must first of all analyse what we term opposites and see when contradictions arise between them.

Opposites and contradictions

Let us turn to our ordinary, daily usage. Everyone understands the sense in which we use the word "opposite". The south and north poles of the Earth are opposites, and so are the right and left sides of the road, and so

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* Sidney Hook, *Dialectical Materialism and Scientific Method*, p. 7.

on. When we compare and contrast any sort of things and see that their properties are dissimilar in such a way that we can counterpose one to the other, we also say in such cases that these objects or phenomena are opposed: for instance, a good man and a bad man. Why do we counterpose such phenomena or events to one another? Because one of them excludes the other. The good is, as it were, removed, excluded from the bad, the north from the south, the left from the right. As we see, *opposites are phenomena, or aspects of phenomena, that exclude one another.*

If, however, the bad was always found so far away from the good that they had nothing in common, then there would never be any friction, hostile encounters, disputes, disagreements between these opposites. In other words, there would be no contradictions between them. In point of fact, when do contradictions arise between people of different character and views? It is when they meet or clash in some way, otherwise they could not dispute with one another. It is the same with opposites.

We need to pay attention here to a circumstance which must be understood or it will be difficult to follow the subsequent argument. The impression may be created that if opposites exclude one another there is nothing in common between them. People often argue along these lines: white is not black, south is not north, cold is not hot. That is a natural view. It concerns the superficial aspect that immediately strikes the eye. If we examine the matter more deeply, however, it is not difficult to realise that the opposites existing in life, in the world, are not separated by an impassable barrier. They can only be understood in connection with each other.

We have already seen that plus and minus, positively and negatively charged particles, exist in a single atom. Action and reaction in mechanics also exist together; the force of a push you give to a boat is the same as that it gives to you. There is no action without reaction. In chemistry such opposites as combination and dissociation of atoms are also inseparable.

Some kind of *relations* always arise between opposites that are connected with one another. That is why "friction", "conflicts", "disagreements" occur between them. *Wherever opposites come into conflict, wherever relations between them*

have been formed, contradictions always arise, since opposed tendencies, trends, forces come into conflict. *Hence, contradiction can be defined as the relation between opposites. Opposites appear as aspects of a contradiction.*

If things and phenomena did not change, if they remained the same for all time, then there would be no opposites, mutually exclusive aspects or tendencies, within them. But we have already seen that they are always in eternal motion, change, development. Hence things always reveal various aspects, something in them outlives its time and becomes old, while something new in them arises and develops. In short, *a developing process always exhibits opposed aspects, tendencies and forces, and, therefore, contradictions.*

In what relation do they stand to one another?

The unity of opposites

We have seen that opposites are found to be connected with each other. This connection is so close and indissoluble that they cannot exist apart from it. We call this connection the *unity of opposites.* Metaphysicians deny the existence of this unity. They consider that each opposite exists by itself. But this is not so. Consider, for instance, the work of a factory.

In every factory there is what is called *expenditure,* the outlays of money or goods. But there is also what is called *income,* i.e., the receipt of money or goods. Could the factory only spend money without acquiring any? Of course, not. Nor could it work without spending money on equipment, raw material, and so on. You cannot separate or isolate these two opposites—income and expenditure—from each other. The work of a factory is inconceivable without unity between them.

Here is another example. As already mentioned, the life of an animal or of man consists of two opposite processes: some cells come into being, others are destroyed or die. But imagine someone saying that to prolong life it is necessary to halt the dying or destruction of cells (dissimilation) and to leave only renewal, the creation of new cells (assimilation). Then the cells will only be renewed. Such an argument would be a serious error; the point is that life consists of two opposed processes and it is simply impossible to separate them from each other. By trying to destroy one opposite, you destroy also the other, and, therefore, life itself. The process of life is a unity and at the same time a contradictory process.

Present-day Right-wing Socialists and revisionists adopt a metaphysical standpoint. They say that capitalism has its "good" and its "bad" sides. To cure it of everything "bad", they propose to develop the "good" side and get rid of the "bad", whereby, it is alleged, a "welfare society" will result. This is like the argument of someone who wants to leave only the birth of new cells in the human organism and to stop the dying of old ones. But just as this cannot be done in the organism, so, too, it is impossible to effect in bourgeois society.

The opposites here are not side by side but in unity. They penetrate each other, together comprising what is called bourgeois society. Hence, it is impossible to remove one side and leave the other. To abolish the "bad side", the evils, of capitalism, it is necessary to abolish capitalism itself. There is no other way.

Thus, the *unity of opposites consists in their being inseparably connected with one another and together constituting a single contradictory process. Opposites mutually condition each other's existence, that is to say, one exists only because the other exists.*

The unity of opposites is to be understood also in the sense of their *identity*. This implies that under appropriate conditions opposites pass into each other. The moist, for example, becomes dry; the dry becomes moist. Here the opposites have changed places, for the corresponding changes have occurred. A hot body, by giving up its heat to its surroundings, becomes cold, and so on.

Lenin attached great importance to the thesis of the mutual transformation of opposites. "*Dialectics*," he said, "is the teaching which shows how *opposites* can be and how they happen to be (how they become) *identical*,–under what conditions they are identical, becoming transformed into each other."*

Analysing opposites, Lenin said that their unity is *relative, temporary, transient*. This means that one cannot speak of the unity of opposites without reference to the conditions in which it is manifested. When the conditions alter, the unity comes to an end.

* Lenin, *Collected Works*, Vol. 38, p. 109.

The relativity of unity is seen also in the fact that opposites never completely coincide. Indeed, how can assimilation and dissimilation completely coincide? For they are different processes. They replace each other, becoming identical, but not completely so, that is to say, not absolutely, but relatively.

We briefly mentioned above that opposites come into conflict, enter into a struggle against each other. Let us examine this question in more detail.

The struggle of opposites The conflict of opposite tendencies is called the *struggle* between them. Since every thing, every process, consists of such opposed sides, it is easy to see that a conflict, a struggle, always takes place between them. What causes it?

The struggle between opposites arises from the fact that they are simultaneously both connected with each other, existing in a unity, and reject, exclude, each other. In this case, friction, conflict, struggle, is inevitable. Consequently, wherever there are opposites existing in unity there is also a struggle between them. *The struggle of opposites is to be understood as the "effort" of each of them to acquire predominant significance in a process or phenomenon.*

You see, therefore, that the unity and struggle of opposites exists in reality. What is it, however, that plays the decisive part in development? Hegel, for example, asserted that the chief thing in development is the unity, the identity, of opposites. Right-wing Socialists and revisionists have unsuccessfully tried to use this thesis of Hegel's to prove the possibility of social harmony, the smoothing over of the contradictions between the hostile classes in bourgeois society.

In actual fact the chief part is played not by the unity, but by the struggle of opposites. This struggle, which does not cease for a single moment is the central feature of the mutual relation of opposites. Since opposites exclude each other, they exist in a struggle against each other. Consequently, while the unity, identity, of opposites is relative, temporary and transitory, the struggle between them, as Lenin wrote, is "absolute, just as development and motion, are absolute".* This means that the struggle of opposites is the source of development, of motion.

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* Lenin, *Collected Works*, Vol. 38, p. 360.

The struggle of opposites is the source of development

The problem of the source, the driving force, of development has always been of interest to philosophers. It also confronts everyone who reflects on the question of what it is that sets in motion the world as a whole and each phenomenon and process in particular. Metaphysicians assert that the source of development in nature must be sought outside it—in God, spirit. Being incapable of indicating the real sources of development in nature, they have recourse to religion. .

But in order to explain why nature develops there is no need to have recourse to supernatural forces. The source is to be found in nature itself, in the struggle of opposites. "Development is the 'struggle' of opposites,"* wrote Lenin.

To understand this, let us look at a few examples.

A new quality, as we have seen, appears as a result of the gradual accumulation of quantitative changes. But what sets this process in motion? When, for example, water is heated, the velocity of motion of its molecules is increased. The force of attraction of the molecules, owing to which the water is maintained in a liquid state, is gradually weakened. At the boiling temperature it becomes so much weakened that it cannot hold the molecules together and the water boils. All this occurs as a result of the struggle of two opposed tendencies: on the one hand, the force of attraction of the molecules; on the other hand, the forces repelling them, owing to which they begin to be driven apart. The struggle between these two tendencies continues until the time comes when the contradiction between them is resolved: a leap puts an end to the unity of opposites. A new qualitative state arises with new contradictions: the water is turned into steam. It follows that the *resolving of contradictions leads to a new quality, to development, motion, change.*

Every contradiction has, so to speak, its own history, comprising its emergence, growth (aggravation) and resolution. The last stage takes place when, owing to the gradual growth of the contradiction, the opposites are no longer able to exist in unity and the conflict is resolved.

When the contradictions that corrode bourgeois society have led to the socialist revolution, it means that the time for

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* *Ibid.*

their resolution has arrived. As a result of the struggle of opposites, and the resolution of the contradictions, society is raised to a higher level: the old bourgeois society is replaced by a new, socialist society. You see, therefore, that *the struggle of opposites and the resolution of their contradictions are the source of society's development.*

Thus, *the essence of the law of the unity and struggle of opposites is that all things and processes are characterised by inherently contradictory aspects which exist in inseparable unity and at the same time in incessant struggle. It is this struggle of opposites that is the inner source, the driving force, of development.* Lenin called this law the essence, the kernel of dialectics.

A multitude of different contradictions are to be found in the surrounding world. Among them there are internal and external contradictions.

Internal and external contradictions

For over forty years now bourgeois propagandists have been talking about "Kremlin intrigues" when workers go on strike in capitalist countries or when the colonial peoples rise in just struggle against their oppressors—the colonialists, as well as when the working people launch a mighty movement for peace.

Such an "explanation" of the working people's struggle for their rights is, of course, ridiculous. It looks for the cause of social events not within the countries in which they take place, but somewhere outside them. Revolution cannot be exported. It cannot take place unless there are *internal* forces and sources which produce it. As the Programme of the C.P.S.U. states, a revolution cannot be made to order. It arises as the result of the deep internal and international contradictions of capitalism. The victorious proletariat cannot impose any "felicity" on other people without thereby undermining its own victory. Communists have always been opposed to the "export of revolution". At the same time the Communist Parties vigorously combat the imperialist export of counter-revolution.

The causes leading to the abolition of capitalism are to be found within each capitalist country, where the interests of a handful of monopolies are in irreconcilable contradiction to the interests of the nation as a whole.

The contradictions about which we have been speaking above are *internal,* since they arise *within* a phenomenon or

process. As distinct from them, there are also *external* contradictions, those between phenomena and processes. *The decisive part is played by internal contradictions.*

Lenin pointed out that *nature contains within itself the source of its development* and that it is no use looking for it in the idea, spirit or God. The movement of nature is its *self-movement.* Its development is *self-development,* and it takes place through *overcoming internal contradictions.*

This does not mean, however, that dialectics denies the significance of external contradictions in development. Every object, phenomenon and process is connected with others by a multitude of threads. Hence, a certain influence is exerted on them not only by what takes place within them, but also by what occurs outside their bounds. Here is a characteristic example. The existence of contradictions between the Japanese militarists and the American imperialists, and the war that broke out between them as a result facilitated the struggle of the Chinese people against their enslavers and the victory of the people's revolution. But the *decisive* role here was played by the internal contradictions, those between the wide mass of the Chinese people and the big bourgeoisie linked with American imperialism.

We see then that *internal contradictions are those within the very essence of an object, whereas external contradictions are those between various objects or processes.*

Contradictions in life and their reflection in thought

We have seen that at every step we encounter contradictions in objective reality. We have also said that our thoughts must be consistent, uncontradictory. The question therefore arises: how ought we to reflect objective contradictions in our thoughts.

Let us examine the following example. Scientists long ago noticed that some properties of light obey the laws of propagation of waves. Others, however, obey the laws of motion of particles (corpuscles). On this basis there arose two diametrically opposed theories of light—the wave and corpuscular theories.

Scientists disputed for a long time about which of these theories corresponds to the true nature of light, what its essential nature is. They argued that light must be *either* a stream of corpuscles *or* a movement of waves. It was not until the beginning of the 20th century that the *dialectical* nature

of light was proved: it is simultaneously both a movement of waves and a movement of corpuscles.

Thus, if a phenomenon is contradictory then its reflection in our thoughts, our judgment of it, must also be contradictory.

Metaphysicians often try to regard opposites in isolation, divorcing one from the other. Thus, for example, revisionists maintain that freedom and discipline are incompatible opposites. There must either be freedom, and then discipline is weakened in the Party, or there must be discipline, and then there is no freedom, no democracy in the Party. By proceeding from Marxist dialectics, Lenin at the very dawn of the organisation of the Communist Party convincingly proved that discipline is not alien to democracy, that it exists in unity, in organic connection, with democracy.

Lenin elaborated the unshakable organisational principles of the Party of a new type—the principle of democratic centralism. Broad democracy is realised here through the electivity of Party bodies from top to bottom. By secret ballot the Party members express their will in conditions of complete freedom. Thus the expression of the Communists' will is democratically manifested. It is also manifested in the fact that the higher Party bodies are accountable to the Communists, who criticise and correct their activity. That is one aspect of the matter.

But a strong, powerful party is impossible without discipline, without the will of the minority being subordinated to the will of the majority, without centralised leadership. This is ensured by the second aspect of Lenin's formula of democratic centralism. The centre, i.e., the Central Committee of the C.P.S.U., the higher Party and state bodies, guide the entire work and life of the Party and state; their decisions are obligatory, for without that there is no discipline, no unity of will or unity of action.

As stated in the Programme of the C.P.S.U., "the broadest democracy must go hand in hand with strict observance of comradely discipline by the working people, and should promote such discipline and control from above and from below".*

If life very often consists of contradictions, if their combination is needed for a better understanding of reality, that

* *The Road to Communism*, p. 552.

means that dialectics does not allow a one-sided approach to phenomena and processes. Flexibility is essential in our judgments and actions.

Lenin on the flexibility of concepts

"All-sided, universal flexibility of concepts, a flexibility reaching to the identity of opposites–that is the essence of the matter,"* wrote Lenin.

How is this to be understood? Take, for example, such concepts as peremptoriness and tactfulness. If someone argues: "one must be peremptory, there is no room for tact here", he is being stubborn and adopting an incorrect, inflexible approach. In fact, a real leader must combine peremptoriness and tactfulness.

However, *dialectics does not allow every kind of flexibility of concepts.* One who applies it *subjectively,* that is to say, not in accordance with what actually exists in life, but according to his own desires, commits a serious error. "Flexibility applied subjectively=eclecticism and sophistry," writes Lenin. "Flexibility applied *objectively,* i.e., reflecting the all-sidedness of a material process and its unity, is dialectics, is the correct reflection of the eternal development of the world."**

What is meant by eclecticism, which Lenin speaks of here? *Eclecticism is the arbitrary combination of contradictory, heterogeneous theories, views and standpoints.* If, for example, a philosopher starts by saying "matter gives rise to spirit" and afterwards says "thus, spirit is independent", that would be an eclectic combination of heterogeneous views–idealist and materialist.

As you observe, the eclectic, too, combines contradictions, but he does so not in accordance with what exists in reality, but in contradiction to it. The result is, as Lenin puts it, an "eclectic broth". An example of eclecticism is the ideology of contemporary Right-wing Social-Democrats, who are the most important ideological and political bulwark of the bourgeoisie within the working-class movement. "They eclectically combine old opportunist ideas with the 'latest' bourgeois theories,"*** states the Programme of the C.P.S.U.

Equally unscientific is *sophistry.* This term is applied to a superficially correct but essentially fallacious argument, based

* Lenin, *Collected Works,* Vol. 38, p. 110.
** *Ibid.*
*** *The Road to Communism,* p. 501.

on a strained interpretation or deliberately incorrect choice of initial propositions in a chain of reasoning.

Under the pretence that this is required by an "all-round" profound approach to the analysis of phenomena, the sophists arbitrarily look for the positive where it does not exist. Where one must frankly and directly say "yes" or "no", they try to find arguments both "pro" and "contra", according to the principle "on the one hand it must be admitted that ... but on the other hand it has to be recognised that...". Their artful stratagems are completely divorced from life, from reality. Lenin says that the sophists' flexibility of concepts is of a subjective nature and is divorced from reality; the sophists are interested not in actual life but merely in the outward appearance of proof.

Lenin always trenchantly exposed the sophistry and eclecticism of bourgeois ideologists, especially the revisionists. The latter, for example, almost profess to be Marxists. But they make a multitude of reservations: "Marxism is all right but it is only valid for the East, it is no good in the West." Or "we are for socialism, but within the framework of capitalism", although it would be as difficult to combine such opposites as to combine fire and water.

Thus, *dialectics is the opposite of eclecticism and sophistry primarily because these result in unprincipledness, whereas dialectics requires consistency and profound adherence to principle.*

Victory, not reconciliation

The Communist Party bases its policy on the Marxist principles without the slightest deviation from them.

"But what about the flexibility of concepts," you may ask. "If opposites exist in a unity, why cannot there be a unity of opposite views, for example, bourgeois and proletarian views?" To put such a question is to forget that opposites exist not only in unity but—and this is the chief thing—in struggle. And the struggle presumes that one of them will be victorious. *Either* the bourgeois *or* the proletarian world outlook will conquer, Lenin writes. Hence an active struggle for the victory of the proletarian ideology is essential. But this victory can only be achieved by pursuing a policy based on principle and not on conciliation. "Such is my fate," wrote Lenin in 1916 about his struggle against opportunism and

revisionism. "One militant campaign after another—against political stupidities, banalities, opportunism, etc. That has gone on since 1893. And there was hatred on the part of the vulgarists because of this. Well, all the same I would not exchange this fate for 'peace' with the vulgarists."*

These words of Lenin's should be borne in mind by those who are sometimes inclined to argue: "Well, there's no harm in retreating from one's principles just a little. We can try to make peace with our ideological opponents. What's the good of quarrelling?" But experience shows that even what appears at first glance to be a small concession very often turns out to be the first step towards a policy of retreat, of trying to reconcile the irreconcilable. *It is impossible to stop half-way in a struggle over principles.*

Differences based on principle have to be settled on a consistent Marxist basis. Lenin exposed conciliation in all its forms. Only a firm, consistent struggle ensures victory for Marxism-Leninism, the cause of communism. One must be as irreconcilable as Lenin in the fight for the purity of Marxist theory, remembering that *the struggle for the victory of Marxist principles arises from the revolutionary spirit of Marxist dialectics and, in particular, from the doctrine of the unity and struggle of opposites. Between principles there is victory, not reconciliation.*

You may be inclined to ask: does not such adherence to principle exclude flexibility, compromises? It does not. They are vitally necessary in every matter. Only one who has failed to master dialectics can say: "Struggle and no compromises." That is a metaphysical approach.

Marxists-Leninists do not oppose all compromises, but only those that involve retreats over fundamental questions of world outlook. If the Right-wing Socialists declare to the Communists: "We will enter into an alliance with you if you renounce the Marxist theory of the proletarian revolution," such a "compromise" would, of course, be rejected. Communists, however, are trying to ensure a joint struggle of all workers—Socialists and Communists—against fascism and reaction. This alliance does not affect fundamental proletarian principles.

The policy of the C.P.S.U. and the Soviet Government

* Lenin, *Collected Works*, Vol. 35, Russ. ed., p. 209.

aiming at the peaceful coexistence of states with different social systems does not imply, of course, that this would abolish the contradictions between socialism and capitalism, or make it possible to reconcile communist and bourgeois ideology.

Divergencies between these ideologies are irreconcilable and will continue to exist. But they do not preclude peaceful competition between the socialist and capitalist countries. Mutual concessions in the interests of the peaceful coexistence of states must not be confused with concessions in matters of principle that involve the very nature of the socialist state and communist ideology. Here there can be no question of any concessions. Adherence to principle means remaining loyal under all circumstances to the immortal ideas of Marxism-Leninism, being able to defend them from any enemy encroachment. Hence *flexibility and adherence to principle are dialectically combined.*

Antagonistic and non-antagonistic contradictions

We must now make clear the special features of social contradictions under capitalism and under socialism. We shall begin with the following example.

1917. Russia was a knot of contradictions. There was the struggle between labour and capital, among the imperialist plunderers, and contradictions between the "centre" and the "outlying regions", i.e., among the nationalities. How was this knot to be unravelled, these contradictions to be resolved? The Communist Party gave the sole correct answer: by the forcible overthrow of the bourgeois-landowner regime, *by a socialist revolution.*

The end of the twenties. The advanced political system had long been victorious in the country, but the effects of the dismal heritage from old Russia were still being felt. A contradiction had arisen between the advanced political system and the technological and economic backwardness of the country. How was this contradiction to be resolved? The Party answered: *by industrialisation.*

And here is an example from the recent experience of the country. Progressively-minded people are working selflessly for the good of their country. Responding energetically to the call of the 22nd Congress of the C.P.S.U. they are doing their utmost in the struggle for the triumph of communism. But

alongside them, perhaps in the same enterprise, are backward elements, idlers and drunkards. This is a real contradiction. How is it to be overcome? The Party answers: *by raising the level of consciousness of the backward to that of the foremost people through education and criticism of their mistakes.*

Thus, there are various ways by which contradictions are resolved. This is because different contradictions have different distinguishing features. Hence, the methods of resolving them must be equally specific. The contradiction between capitalists and the proletariat is one thing, that between advanced and backward workers is another. In the first case there are irreconcilable class contradictions, in the second the contradictions are between comrades who are working together. Hence the difference in the approach to resolving them: in the first case through the forcible overthrow of the old regime by a proletarian revolution, in the second through comradely criticism and self-criticism. Contradictions of the first kind are called *antagonistic,* those of the second kind—*non-antagonistic.* Antagonistic contradictions occur where there is a struggle of irreconcilable interests.

It cannot be said that in the animal world there are no such irreconcilable interests and rivalry. Between predatory and non-predatory animals there is often an antagonism leading to fierce struggle. Nevertheless, antagonistic and non-antagonistic contradictions primarily occur in the sphere of social relations. It is in this sphere that it is possible to speak of ways and means of resolving contradictions depending on the nature of the conditions in which they are manifested. Antagonistic, irreconcilable contradictions in society arise as contradictions between hostile social forces or classes. They lead to conflicts and clashes between landowners and peasants, between the bourgeoisie and the proletariat, between the colonial peoples and the imperialists.

Let us demonstrate this from the example of capitalist society. First of all, it should be noted that under capitalism production is the result of collective, joint labour and not individual labour. In manufacturing a tractor, for example, labour is contributed by mineworkers, by steelmakers of a neighbouring factory, and even by workers of a power station which may be hundreds of miles away but which supplies electric power to the factory. In the engineering industry

every item turned out is the product of social labour. This means that *the process of production under capitalism has acquired a social character.*

If capitalist production involves the participation of the whole of society, does this mean that products of labour belong to society as a whole? The point is precisely that they do not! The results of labour are at the disposal of those who own factories, land and mines, viz., the capitalists, the private property owners. It follows that *under capitalism there is a contradiction between the social character of production and the private capitalist form of appropriation. This is the basic contradiction of capitalism.* It becomes especially manifest in the highest stage of capitalism–imperialism.

Bourgeois society has outlived its time. It has become a brake on social progress. Production has grown to such gigantic dimensions that it can be successfully run only on planned lines. But this cannot be done under capitalism, which is dominated by private ownership, competitive struggle, economic competition between one capitalist and another, between one firm and another. Such management leads to anarchy of production, i.e., the absence of a plan, and economic disorder. As a result, crises of overproduction periodically occur in capitalist society. Unemployment grows, most people are not in a position to buy commodities. This leads to the curtailment of production, resulting in still greater unemployment. Capitalist production goes from one crisis to another. You see, therefore, that the *basic contradiction of capitalism is manifested through anarchy of production, economic crises and social catastrophes.* Under such conditions social production cannot develop normally.

The basic contradiction is the material foundation for all the other contradictions which corrode capitalist society and lead to its inevitable downfall. Such contradictions are, for example, that between the classes–between the bourgeoisie and the proletariat–and those between the imperialist countries. Until recently it seemed that, after their defeat in the Second World War, Germany and Japan would never again be competitors of such European countries as Britain and France. Now it has turned out that they are once again ousting these countries from the world market. This inevitably aggravates the contradictions between all of them. West Germany and Japan have proved to be dangerous competitors

for the U.S.A. as well. All this leads to the revival of old and the emergence of new knots of imperialist contradictions and conflicts.

Deep-rooted antagonism divides the imperialist countries from the countries that have won national independence and those that are fighting for liberation. The peoples of Africa, Asia, the Middle East and Latin America refuse to reconcile themselves to imperialist plundering and are waging a struggle for their liberation. As the Programme of the C.P.S.U. points out, the antagonism of labour and capital, the contradictions between the peoples and the monopolies, growing militarism, the break-up of the colonial system, the contradictions between the young national states and the old colonial powers, and—most important of all—the rapid growth of world socialism are sapping and destroying imperialism, leading to its weakening and collapse. Such in truth is the stark reality of capitalism rent by internal antagonisms, causing the downfall of capitalism as a socio-economic system.

How are *antagonistic* contradictions resolved? Their growth and aggravation are a general feature of their development and this leads to conflicts between the opposed aspects and tendencies.

Thus, *antagonistic contradictions are irreconcilable contradictions of hostile social forces, interests, aims and views, which bring about to conflicts and clashes; their resolution is accomplished through bitter struggle, social revolution.* An antagonism cannot be resolved within the framework of social relations. To resolve it, these relations have to be abolished in a revolutionary way.

This does not mean, however, that the forms and methods of resolving antagonistic contradictions are always the same. They depend on the conditions in which the resolution takes place. Hence, under various historical conditions various forms of the resolution of antagonistic contradictions can be observed.

Non-antagonistic contradictions are distinguished from antagonistic ones by being contradictions of social forces and tendencies which at the same time have common vital interests. Such, for example, are the contradictions between the advanced and backward elements of socialist society.

In socialist society with its non-antagonistic contradictions there is no tendency for them to become sharper and deeper,

and to develop into hostile opposites. On the contrary, since the various classes are united by common fundamental interests there is a tendency for the contradictions to be mitigated and smoothed over. That is why the methods of resolving them differ from the methods of resolving antagonistic contradictions, just as the two kinds of contradictions themselves differ. The non-antagonistic contradictions are resolved not by social revolutions and political upheavals, but by education, criticism and self-criticism, and by other methods arising from the concrete circumstances of communist construction. The contradictions in socialist society are revealed in good time by the Communist Party which finds concrete ways of resolving them. Hence they can never develop into irreconcilable conflicts of hostile forces and interests, for there is unity of interests in socialist society.

You see then that the absence of antagonistic contradictions in socialist society does not imply that it has no contradictions. Lenin wrote that complete, absolute concord without any contradictions will never occur, "that there will always be such a 'discrepancy', that it always exists in the development of nature as well as in the development of society".* But the contradictions which operate under socialism are non-antagonistic and can be successfully resolved within the framework of the existing social system.

Thus, the law of the unity and struggle of opposites reveals the internal source of development. But how does this development proceed? Is it in a straight line or is it a more complex process of the abolition of the old and the emergence of the new? We shall answer these questions in the next talk.

* Lenin, *Selected Works*, in three volumes, p. 755.

SEVENTH TALK

THE LAW OF THE NEGATION OF THE NEGATION

What do we mean by the negation of something? If you have not studied philosophy your answer would almost certainly be something like the following:

"To 'negate' means to deny the existence of something, to abolish or reject it. When we say 'I deny that I am to blame,' it means that I reject, deny an accusation."

In this connection you will probably remember that in grammar the negative is denoted by "not", that the form of negation most frequently met with involves the word "no".

This meaning of the word "to negate" does actually exist. But the word has yet another meaning, one that is more profound and much richer in content. This will become clear from the following account.

What is negation?

Old age, destruction, death, is a natural phenomenon that is constantly met with in and around us. Take whatever phenomenon of nature you like, it has its beginning, i.e., it came into existence at some time, it develops, grows and gains strength, and afterwards it grows old and becomes out-of-date. In his work, *Ludwig Feuerbach and the End of German Classical Philosophy,* Engels wrote that for dialectics there is nothing that is given once and for all, unconditional, holy. Everything bears the imprint of inevitable negation, of disappearance, and nothing can withstand it save the continuous process of coming into being and annihilation, the process of the endless ascent from the lowest to the highest.

Thus you may see that in this sense the *essence of negation consists in the fact that in the material world there is a*

constant process of renewal, of the passing away of old phenomena and the emergence of new ones. The replacement of the old by the new is its negation.

Perhaps you will say: since every phenomenon proceeds towards old age and destruction, it follows that gradually, sooner or later, the world will perish.

To get clear about this, it must be borne in mind that the process of negation, of the perishing of outlived phenomena, assumes various forms. For example, every machine wears out and has to be scrapped. This is an example of negation in its ordinary, daily sense, spoken of above. But anyone who has to do with modern, rapidly changing technology is familiar with another, more complicated dependence.

During its use, equipment becomes obsolescent not only in the direct, physical sense, but chiefly in a "moral" sense. This means that a machine grows old and loses its value owing to the appearance of improved and more productive types of machines, as machines of the same sort begin to be produced cheaper or better machines enter into competition with it.*

If a machine is simply destroyed, such an act of negation does not create any conditions for fresh development. Such negation is also met with in life and under certain conditions even becomes essential. In the first years of the nazi invasion of the U.S.S.R. Soviet people were obliged to burn grain stocks and destroy buildings and machinery to prevent them falling into the hands of the enemy.

The main line of historical development, however, is that of creation, consecutive development. You have already met examples of this when we were dealing with the development of technical equipment, its improvement by the negation of out-of-date, obsolete machines. It is this kind of negation that we shall speak of in our further examination of the process of renewal.

Negation of the negation

New phenomena arising in nature and society also go through a natural course of development: in the course of time they become out-of-date and give way to still newer phenomena. Whereas at an earlier period they negated the old, they are

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* See Marx, *Capital*, Vol. I, p. 404.

now negated by what is younger, newer and stronger. This is already the negation of the negation. And since the number of phenomena in the world is infinite, the process of their negation proceeds continuously, endlessly, that is to say, the process of the negation of the negation takes place continuously.

What is the result of all this? The following example will show you. The growth of crops comprises a number of stages: the germination of the seed, the growth of the plant and its ripening (harvest). Germination puts an end to the existence of the seed in the soil. It is negated. But its place is taken by the plant, whose shoots have grown out of the seed. But later on the plant flowers blossom, its flowers are fertilised and finally the harvest ripens. Then the shoots die. This is a second negation and the whole process of growth to produce the harvest is the negation of the negation.

Note that the process of negation here has led not only to the *destruction* of the seeds in the soil, but also to the *appearance* of new seeds, moreover in much greater quantity—ten or twenty times as many. In this result can be seen the essence of the law of the negation of the negation. What was the starting point of the process? The grain-seed. And what was the final result? Again, the grain-seed. The process, as it were, repeated itself, the "circle" closed. But the law of the negation of the negation shows that development has taken place. At the outset we had a definite quantity of seeds, at the end—a *harvest*. Naturally, this is not a simple repetition.

It is true that we have come back to what we started with, but this is a repetition at a new, higher level. If the result of harvesting the crop were quantitatively and qualitatively the same as at the beginning, it would not be worth while cultivating the soil. The beginning (the sowing of the seed) and the end (the harvest) of the process in our example are two qualitatively different stages of development: a lower stage and a higher one. As the result of this development the process does not mark time but moves from lower to higher, from simple to complex.

Thus, *the essence of the law of the negation of the negation is that in the process of development each higher stage negates, annihilates, the preceding one, at the same time rais-*

ing it to a new stage and preserving all the positive content in its development.

Dialectical negation presumes both negation and preservation, both destruction and further development. It is this that is expressed by the term "negation".

Dialectical negation. Criticism of nihilism and scepticism

It is clear from the above that not every negation is a source of development. Engels gives a very simple example, which we have partly dealt with above. Instead of sowing a seed in suitable conditions for its development and so dialectically negating it, it is possible simply to destroy it. This is also negation, but not dialectical negation. It is not a source of development. The phenomenon is destroyed and that is all. Lenin called such negation "futile".

Does such negation occur in real life? Yes, very often. There are people, for example, who deny everything, who do not believe anything. They are called *nihilists.* There are also people who doubt everything, distrust everything. They are called *sceptics.* These people also negate but theirs is a "futile", sceptical negation. Lenin always attacked such empty negation.

Dialectical negation appears as a factor of connection with the preceding stage of development, as a summing up. It expresses the sequence in development. *Negation is dialectical only when it is the source of development, when it preserves and maintains all that is positive, healthy and valuable.* Negation must not be an end in itself. Negation for the sake of negation is nihilism. Dialectical negation signifies the overcoming of the previous stage of development without ignoring or rejecting this stage. Negation, if it is dialectical, does not interrupt development but, on the contrary, preserves and maintains all the positive side that was expressed in it. "Not empty negation," wrote Lenin, "not futile negation, *not sceptical* negation, vacillation and doubt is characteristic and essential in dialectics,—which undoubtedly contains the element of negation and indeed as its most important element—no, but negation as a moment of connection, as a moment of development, retaining the positive, i.e., without any vacillations, without any eclecticism."*

* Lenin, *Collected Works,* Vol. 38, p. 226.

How do the nihilists and sceptics behave? This is easily seen from the example of the attitude of bourgeois leaders to the achievements of the socialist system. Some of them openly opposed the October Revolution. For many years afterwards they refused to admit the existence of the Soviet republic. The sceptics perpetually threw doubt on the ability of the working people to create a new society.

Reports in the West on the first Five-Year Plans always spoke of them as "utopia", invariably decrying them as "impossible". But the years passed and the nihilists and sceptics were put to shame.

It became especially difficult to throw doubt on or deny the successes achieved by the socialist country after the launching of its sputniks and lunniks. The outspoken sceptics, who even "doubted" the space trips by Soviet cosmonauts had to beat a shameful retreat. The nihilists and sceptics have only changed their form or method. They no longer openly deny the economic plans laid down in the Programme of the C.P.S.U. They are "merely" sceptical about these plans. They "do not believe" that it is possible to achieve abundance for the people, they "doubt" whether universal human happiness is a feasible goal.

The nihilistic attitude is manifested not only in relation to Soviet reality. The Communist Party always combats petty-bourgeois, anarchistic attempts to deny the positive features in the development of science, technology, philosophy and the history of human thought as a whole.

The Communist Party has always waged and continues to wage a struggle against a contemptuous attitude towards world culture, against conceit and attempts to teach others while refusing to learn from the ordinary people.

In the first years after the October Revolution, for example, there existed an association of proletarian cultural and educational organisations called Proletkult. Its adherents asserted that the new socialist culture completely negated all the old culture. The monstrous forms assumed by the nihilistic activities of Proletkult can be judged from the fact that it was proposed to close down the Bolshoi Theatre and the Moscow Art Theatre on the grounds that these arose in feudal-bourgeois Russia, whereas the proletariat, it was alleged, needed a new literature and a new art.

Lenin sharply attacked these anti-Marxist ideas of the Proletkult ideologists. He showed that proletarian culture does not arise out of nothing, but is the natural result of all preceding cultural development. Socialist culture negates, abolishes bourgeois culture, but it does so in such a way as to preserve everything of value this culture has created. That is how Lenin understood the dialectical negation of bourgeois art.

The Programme of the C.P.S.U. points out that in socialist realism, based on the principles of partisanship and kinship with the people, bold innovation in the artistic portrayal of life is combined with the utilisation and development of all progressive traditions of world culture.

The enemies of Marxism have depicted Communists as destroyers who are incapable of building and creating. But the Communists destroyed the exploiting system hated by the people in order to create a new, most just social system —communism.

Communists always use negation for the purpose of creation. Communists have taken their place in the history of mankind as the great creative force, transforming and renovating the world. All that is reactionary and obsolete is negated by them; all that is valuable is preserved.

The socialist countries do not scorn what is useful in the experience of other countries but critically evaluate and adopt all that is of value in the technology and organisation of production in the West. Socialist society possesses immeasurably greater forces and possibilities for successfully developing all branches of the economy and culture. It would, however, be a grave error on this account to deny the achievements of science and technology in other countries and to adopt a nihilistic attitude towards them.

Students of Marxist philosophy may ask: why should scepticism be condemned, when it is known that Marx replied to the question, "What is your favourite saying?" with the words "De omnibus dubitandum". Lenin, too, repeatedly said that dialectics contains an element of scepticism. To clear up this matter it must be borne in mind that these concepts are sometimes understood in different senses.

In the statements of Marx and Lenin mentioned above it is a question of *dialectical* negation and *rational* scepticism.

These are actually an inseparable feature of the Marxist approach to the phenomena of reality. By its very nature dialectics is directed against blind faith and unthinking dogmatism.

The Communist Party opposes a dogmatic attitude to reality, one that takes everything on trust. An element of rational scepticism is essential here: to approach the phenomena of reality with rational doubt is of assistance in achieving a healthy view of the world. This is the essence of Marx's saying quoted above.

It is a different matter if empty scepticism is substituted for rational scepticism. In that case it is akin to nihilism.

In practical activities it is important to be able to find the boundary that separates healthy scepticism from nihilism. One should always ask oneself: "What is the purpose of my doubt–destruction or creation?"

Lenin taught that *dialectics contains an element of scepticism but cannot be reduced to it.* Futile doubt yields nothing positive in return. It is of little use. Belinsky had some very good remarks about sceptics of this kind. He said: "Only petty minds, worthless people, flaunt their scepticism as a fashionable attire and boast of it as a merit. Only mountebanks and entertainers of the idle crowd, only they doubt everything lightly and gaily, are amused and do not suffer.... And what merit is there in ridiculing and inveighing against everything–science, reason and art?"

A correct understanding of the dialectical nature of negation is a reliable guarantee both against unthinking dogmatism and against scepticism and nihilism.

What has been said above enables us to penetrate more deeply into the essence of the law of the negation of the negation which is bound up with an understanding of the progressive nature of development. Let us examine this question.

The progressive character of development

As you know, primitive man began his labour activity by creating instruments of labour. At a certain stage of historical development, stone tools were replaced by metal tools. The latter were a kind of negation of the former, but they preserved all that was of value in the stone tools, e.g., their sharpness, their form (as in stone and iron axes), etc.

The invention of machines was a new step forward in the development of the instruments of production. Marx points out in *Capital* that in the original form of the mechanical weaving-loom it is easy to recognise the old hand weaving-loom. The former is a negation of the latter, but it is a dialectical negation, for it preserves to some extent the principle of the old hand weaving-loom. This is always the case with machinery. New machines negate the old but invariably preserve the valuable features acquired during previous experience of production.

Note how the process of development has gone on. At the outset people had only primitive tools (of stone). Now we have atomic power stations, jet engines and many other things. Hence, the process of consecutive negations has led step by step to results immeasurably superior to what existed at the beginning. Thus mankind has advanced along a long path of development.

What was the course of this process? Draw an imaginary line of the advance from primitive to modern technique and you will obtain a clear idea of the result. The line, of course, is an ascending one. Technique has all the time become more perfect, metaphorically speaking, it has risen higher and higher. It is not meaningless to speak of "higher technique".

Such is the nature of every process of development if it occurs as the result of the negation of the negation. The higher stage is higher because it raises and enriches the process as a whole. This is the chief feature of dialectical negation. An important conclusion follows: *development taking place as the result of the negation of the negation has an advancing, progressive character.*

This conclusion applies to the development of both nature and human society. In nature there is a transition from the inorganic to the higher, organic stage, and the evolution of the animal world from the first living organisms to the appearance of man. In society there is the path traversed from primitive communism to socialism, the first stage of communism. We see the same thing in the development of science. Primitive man's knowledge of the world cannot be compared with the knowledge given to man by modern science.

Thus, we see everywhere the same tendency, the same regularity—*development is progressive, i.e., from lower to*

higher, from simple to complex. This is the essence of the law of the negation of the negation.

This tendency, this law, determines an important feature of the Marxist-Leninist world outlook—its *optimistic character.* This follows directly from the dialectical conception of negation. Anyone who refuses to recognise futile negation, anyone who realises that negation is the "midwife" of development, will inevitably take an optimistic view of things. Such indeed is the nature of our world outlook.

Those who are guided by an idealist, bourgeois world outlook take a diametrically opposite view, marked by pessimism, i.e., a gloomy, cheerless view of life. Seeing that the world of capitalism is crumbling, some bourgeois philosophers and sociologists assume that the decline of this social system is a crisis of civilisation, thought and humanism in general. They talk of an "atomic catastrophe", of the "end of civilisation", of the "end of the world", and so on. You can see from this what is involved in the West's fashionable denial of progress, of the progressive development of human society. Even the term "progress" is often pushed into the background. At the Third International Sociological Congress, the bourgeois sociologist Leopold von Wiese proposed that it should be replaced by the term "change". For mankind, which has lived through the tragedy of two world wars, he explained, such a cautious and sceptical expression is much more suitable. But science, practical life, refutes these assertions of the bourgeois philosophers. The advancing, progressive development of nature and human society is an objective, inviolable law. How does it operate?

Development in a spiral

Everyone knows the expression: "History repeats itself." It denotes one of the features of history's process. Thus, mankind began its development with social, collective ownership of the instruments of labour. Thousands of years passed and under socialism, communism, the same thing is repeated: the members of society collectively own the products of their labour.

There is indeed a certain repetition here. Many such examples could be cited. Bourgeois philosophers and churchmen use these examples to prove that development in the world takes place in a circle. There is nothing new under the sun—merely eternal repetition, rotation.

An exponent of the rotation theory was the Italian philosopher of the end of the 17th and beginning of the 18th century, *Giovanni Vico*. According to his view, all peoples pass through three periods, analogous to the three periods of man's life: childhood, youth and maturity. The period of florescence passes and after it society declines. It returns once more to its original state. The circle is closed and society begins a new cycle of development. But it is similar to the old one.

Whereas Vico's views still have some progressive elements—in particular he recognised that the course of history is determined by objective laws and he did have some historical optimism—modern bourgeois historians and philosophers concentrate on the reactionary aspects of the theory of rotation. The British historian Arnold Toynbee, for example, describes the history of human society as falling into a number of independent civilisations, each of which passes through the same stages of birth, growth and destruction. There is no real basis for such a theory, for at the present time the progressive development of society is obvious to all.

"How can that be?" you may ask. "Did you not say above that a certain repetition, a return to the old, is often seen in historical development? Why should we deny it now?"

It is true that a return to the old is actually seen in the case of the negation of the negation. Recall, for example, social ownership under the primitive communal system and under communism. This process only superficially looks like a return to the old. Actually this is only an outward appearance which obscures a much more complex relation. In actual fact there is no retreat here.

Social ownership under communism with its highly developed technology and mighty potentialities differs as essentially from what existed in the primitive system of society as the life of the builders of communist society differs from that of primitive men. This is by no means a return to the old. Consequently the actual *progressive development* must be distinguished behind the *outward appearance* of a "retrogressive movement". Chernyshevsky wrote in this connection: "The higher stage of development is in form a return to the original beginning of development. Of course, despite the resemblance of the forms, the content at the end is immeasurably richer and higher than at the beginning."

Lenin emphasised that the result of the negation of the negation is an *apparent* return to the old. It is only so in form, but not in essence, for the process has been enriched, and rose to a higher level.

You see, therefore, that the aphorism "history repeats itself" correctly seized on a definite aspect of the actual process of development, but that it would be a serious error to take it literally. In progressive historical development there cannot be two absolutely identical stages. As a result of the negation of the negation, only *certain* features and peculiarities of the original historical forms are repeated and revived at the higher stage. This shows that development does not take place in a circle.

In this connection it may be asked: if development is progressive, from lower to higher, does this take place along a straight line or is it a more complex process?

While upholding the thesis of the progressive character of development, Marxism by no means regards historical development as proceeding along a straight line. History does not develop in a straight line, it has gigantic interruptions, zigzags and abrupt turns. Retrogressive movement also occurs in history. At such a time, in a particular country or even a number of countries, it is the reactionary and not the progressive forces that are victorious, as happened for example in nazi Germany. But this retrogressive movement cannot change the general trend of historical development, which on the whole proceeds along an ascending line, in a progressive way.

The clearest idea of the development of nature and society is obtained by comparing it to a spiral. It has a large number of circles but they do not coincide or repeat one another. If someone climbs a spiral staircase he looks as if he were moving in a circle but he is actually rising higher and higher. This comparison expresses very well the essence of the law of the negation of the negation.

Thus, *development takes the form of a spiral and at each turn there appears something qualitatively new which raises the process to a higher level.*

In this connection you may ask: if every process is raised to a higher level as a result of the negation of the negation, what will happen after communism, will this society also be negated? This is a question that often arises. Marxists answer

it as follows: the establishment of communist relations is not simply a transition from one socio-economic formation to another, but a transition from the *pre-history* of society embracing several formations, to its *real history*.

Communism is no longer a simple phase or transitory stage of history. The establishment of communist relations marks the beginning of a new, genuinely conscious history of mankind, of which all the succeeding historical changes will be stages. To say that historical development will sooner or later raise the question of the negation of communism is as meaningless as, say, to suppose that technological progress may lead to the negation of large-scale machine industry.

"Then there is a contradiction between dialectics and the theory of scientific communism," the ideological opponents of Marxism assert. "Under communism the law of the negation of the negation ceases to operate." Is there really such a "contradiction" here? Let us examine this.

Why did all forms of economic relations under slavery, feudalism and capitalism sooner or later become a brake on the development of society and have to be smashed, transformed? It was because all these relations were based on *private* ownership. With communist *social* ownership, however, for the first time the form of unhindered development of the productive forces is found. It has therefore been established in perpetuity. Does it follow then that social development actually ceases under communism? To ask such a question implies that you have identified the concept "social development" with that of a "change of existing social relations".

Under slavery, feudalism and capitalism, social development really was impossible within the limits of obsolete social relations. For that reason they had to be changed. But, indeed, what is the use of negating, abolishing communist relations if they create unlimited opportunities for social progress? It must be agreed that there is no reason for their replacement.

The improvement of social relations under communism presupposes negation of the old by the new, a whole series of profound changes in the sphere of production, in the standards of human behaviour and culture. None of these negations, however, affects the social nature of com-

munist relations, which is a necessary prerequisite for further historical progress. It follows that under communism the main content of the law of the negation of the negation—the progressive character of social development—is by no means abolished. The victory of the new over the old and obsolete is a law of the entire history of mankind and therefore of communist society as well.

Development is a struggle of the new against the old

Whatever sphere of human activity you take—whether science, art or political life—a struggle of the new against the old and obsolete is always proceeding in them. But what is to be understood by the new?

In everyday life we understand by the new something which has been done for the first time, which has recently arisen. Philosophically, the meaning of this concept is somewhat different and more profound. If, for instance, there arises in the West some "new" philosophical school, which under a mark of novelty simply revives long obsolete, moth-eaten notions, that cannot in any way be called a new phenomenon. On the contrary, it is an old, obsolete phenomenon which has no future.

In actual life the old often masquerades as the new. This is a very widespread and at the same time veiled form of the struggle of the old against the new. Consider the following example. All opportunists and revisionists criticise what they allege to be "out-of-date" Marxist theses and maintain that they are putting forward something entirely new. But under the guise of producing something new they undermine the foundations of Marxist theory. In inventing "new" paths to socialism, the revisionists reject the road travelled by the Soviet people as allegedly out-of-date. But what they offer is only an old dish with a new sauce.

Special attention needs to be paid to the attempt of the big bosses of the capitalist world to depict present-day capitalism as "new" and "modern". But here too the talk of novelty has little sense. Capitalism is obsolete; it is approaching its end and no embellishment will save it.

So you see that the philosophical concept "the new" has a very definite meaning.

By the new, Marxism-Leninism understands a process or phenomenon which expresses the progressive tendencies of development. The new is what is advanced, progressive,

which is necessarily connected with renewal, with development from lower to higher, from simple to complex.

In what relationship do old and new phenomena stand to each other? It is primarily one of opposition. But, as you know, opposites are in a unity and at the same time in struggle. Hence one can neither separate these opposites from each other nor avoid the struggle between them. As a matter of fact, the new does not arise away from or alongside the old, but within the depths of the latter; it is here that the germs, the rudiments, of the new usually make their appearance, or the conditions for its origin arise. As development proceeds the old decays and weakens, while the new grows and strengthens. Hence the new is always the dialectical negation of the old. The process of dialectical negation takes place in the form of a struggle of opposites. In this struggle the new, advanced and progressive, defeats (negates) the old and obsolete. *The irresistibility of the new is a law of historical development.*

If you recall the history of the Soviet Union, it will be clear to you that from the day of its inception every step in its construction of socialism was achieved in a struggle against those who sought to halt the victorious advance of the new, socialist society, and against international imperialism. In this struggle the Soviet Union invariably triumphed because it embodied new relations, a progressive social system. But this does not mean, of course, that the new always and easily defeats the old and obsolete. This is not the case, if only because in the early period the new is weaker than the old; it has not yet gathered strength and may therefore be defeated if not given timely support and carefully nurtured.

In social life the struggle of progressive classes usually leads to the victory of the new over the old. On the ideological front, too, the new triumphs only through struggle against the old and outlived.

What conclusion follows from all this?

If the growth and victory of the new results from the whole course of historical development, then the task of the Marxist-Leninist party is to see what is arising in reality and to promote its victory. Hence, the Marxist-Leninist theory of the irresistibility of the new enables the Communist Party to struggle for what is progressive, for what is arising and developing, and enables it to foresee the future. The Party,

like a careful gardener, nurtures the shoots of the new and progressive. The entire history of the Soviet Union is the practical realisation of Lenin's directive: "We must carefully study the new shoots, we must devote the greatest attention to them, do everything to promote their growth and 'nurse' these feeble shoots."*

We have examined the main laws of materialist dialectics. This does not suffice, however, to elucidate their essence. It is necessary to be acquainted also with the categories of materialist dialectics.

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* Lenin, *Selected Works*, Vol. II, part 2, p. 229.

EIGHTH TALK

CATEGORIES OF MATERIALIST DIALECTICS

Philosophical categories We have seen that it is impossible to do without general concepts. Physicists, for example, study the property possessed by various bodies of preserving their original state of rest or uniform motion. But they cannot stop there. They are inevitably faced with the question: why is this property manifested by all bodies, what is it that they have in common? Thus, on the basis of studying the properties of individual objects, physicists arrive at the general concept "inertia". The same thing applies to mass, the measure of the inertia of bodies. Here, too, one cannot limit oneself to studying the mass of individual bodies; it is necessary to formulate a general proposition as to what mass is in general. In exactly the same way physicists have arrived at the general concept "energy". It is a general concept because it expresses in a concentrated form the essential characteristics not merely of a particular body, but of all bodies and processes that have energy.

The same thing can be seen in biology. It studies not only the various species of fish, mammals or other organisms, but establishes the concept of species in general.

Concepts which denote the most general features, connections or aspects of phenomena and objects are called categories. Every science forms scientific concepts, categories, such as "species", "heredity", etc., in biology; "value", "labour", etc., in political economy; "chemical element", "chemical reaction", etc., in chemistry.

Are, however, these categories of the definite sciences sufficient? Each of these sciences studies general concepts within its own sphere. But, as we have already seen, there

exist the most general properties of things and phenomena. Which science formulates these general concepts? It cannot be done by physics, which is restricted to its own special sphere of knowledge. The same applies to chemistry, biology and other sciences.

The most general properties of things are reflected in *philosophical categories*, such as "matter", "motion", "space", "time", "quality", "quantity", "contradiction", etc. *Philosophical categories are the most general of all concepts.* It is clear then that one cannot limit oneself to the categories elaborated by physics, chemistry and other sciences. Philosophical categories are formed in the process of cognition to reflect the most general properties of phenomena.

Categories, like all other concepts, are secondary, derivative. Gradual study of the things of the real world led to the formation of concepts, including the most general concepts, i.e., philosophical categories. This means that the source of categories are objects and phenomena in the objective world that exists apart from man. Hence categories are of an objective nature.

Once formed, philosophical categories serve the individual sciences as a guide. A physician, for example, before looking for the cause of a disease has to know what a cause is and whether it exists objectively or not, and so on. In short, he must be acquainted with the category "causality". For if, as the idealists assert, causality does not exist objectively, what is the use of looking for it and attaching such great importance to it?

The materialist theory of the secondary and objective nature of categories provides a correct guide in practical activities.

Idealists distort the true significance of categories. The objective idealists, such as Hegel, regard categories as the product of some spiritual force existing outside the material world. The categories created by the spirit serve as a "yardstick" for reality. This view puts everything upside down. According to it, categories do not reflect the properties of objects; on the contrary, things have to conform to the appropriate categories.

The subjective idealists' point of departure is that categories have no objective content, that they are subjective. Kant, for example, held that the categories exist in the consciousness

of the subject, of man, before he begins to obtain knowledge of the world. Modern idealists repeat this argument. But, as we have already seen, this is not a scientific view: the categories reflect general properties of things, and they exist before man begins to study them.

In this talk we shall deal with some categories of dialectics. Others will be dealt with in the later talks on dialectical materialism. And since in practice we are concerned primarily with single objects we shall begin with the categories of the singular and the general.

Singular, Particular and Universal

What is meant by singular and general?

When we say "this machine", "this man", "this tree", we are referring to single objects. When, however, we speak of "machine", "man", "tree" in general, we have in mind a whole group or class of such objects.

There actually exists a particular fir tree which children decorated at the New Year, an oak in whose shade we rested, a birch tree whose beauty we admired. But we sometimes speak of "fir", "oak", "birch" in general. Where do these general concepts come from?

The point is that every object possesses a number of specific properties. Consequently, concepts of single things reflecting the above-mentioned properties of objects are formed in our minds. This is the category of the "*singular*". Peter, for example, differs from John in height, colour of hair, manner of speech, etc., so that they are not alike. Similarly one birch tree differs from another in a number of features, and one fir tree from another growing alongside it, and so on.

Nevertheless, all fir trees, although they differ, have much in common, some biological properties, such as shape, etc., are common to all of them. The same thing holds good of people. Each person has a number of individual features which are characteristic of that person alone. In addition, however, he has features that are common to all people: the ability to work, to think, to speak, etc. It is clear then that what is individual is connected with what is general. This is revealed even in a simple sentence. When we say "this fir is a tree", "Bobby is a dog", "Peter is a man", the concepts

"this fir", "Bobby", "Peter" are singular, the concepts "tree", "dog", "man" are general. They all characterise the same object.

Thus, *the singular is a given concrete object or phenomenon of the material world. The general is that which characterises a connected group of objects or phenomena.* Hence the singular is always linked with the general to which it belongs, as, for example, the fir with the group of trees, Peter with the class of people.

This generality may be of various kinds. A birch is not only a tree but also a plant, "Bobby" is not only a dog but also an animal. This means that the general which links the given birch tree with other birch trees unites them in the species "birch". Such a degree of generality is termed the *"particular"*. And the general nature which groups all birch trees with trees generally in the group "tree" is the "universal". Correspondingly "Bobby" is the singular, dog is the particular and animal is the universal; hydrogen is the singular, gas is the particular, and chemical element is the universal. Thus we establish the following connection: singular–particular–universal.

The question will probably be asked here: in nature itself only the singular exists. It is reflected in the category of the singular. But does the category of the general have its analogy in reality? If not, is the general not simply a creation of our minds? This question correctly points to a difficulty involved in the very posing of the problem of the singular and the general. Metaphysically-thinking philosophers were unable to solve it, they divorced the singular from the general. But the crux of the matter is that there is an inseparable, dialectical connection between the singular and the general. Hence the answer to this question can only be understood by elucidating this connection. In what does it consist?

The dialectics of the singular and the general

The single, the individual, does not exist in isolation from the general. An individual birch tree, for example, has a number of essential properties which are characteristic of trees in general. Thus an indissoluble connection is established between the singular and the general; every singular is in one way or another general, and every general is present in the singular. In his work "On the Question of Dialectics", Lenin wrote: "The

opposites (the singular opposed to the general) are identical; the singular exists only in the connection that leads to the general. The general exists only in the singular, through the singular."*

That is how dialectical materialism resolves the problem of the connection between the singular and the general.

Idealists give a different answer. They distort the dialectics of the individual and the general. Plato, for example, held that the "general", i.e., the "idea", existed before the particular, before real things. The same view was expressed by Hegel and other objective idealists. But we have seen that this is not true. It is only because all violets have something in common making them flowers that we unite them in the general concept "flower". If this did not occur in the individual case, in reality itself, the general concept would not exist. The general exists in individual things. Our mind reflects it but does not create it. There is no species of animal or plant apart from really existing animals and plants. Consequently, the general cannot be primary. Nor, as you see, can it be a construction of our minds. The general exists in reality itself, but not by itself, not separately from things, but in general properties exhibited by things and phenomena. *The general,* therefore, *is reflected in our consciousness but not created by it.*

Thus the singular and the general cannot be divorced from each other. The singular contains the general within it, and the general exists only in the singular (the individual) and through it. This proposition is of very great importance for practical activity, in particular for the struggle against revisionism and dogmatism.

Practical importance of these categories

The solution of practical problems is very often bound up with an analysis of the categories of the singular and the general. This is above all the case when it is a matter of applying concretely general concepts such as scientific laws.

The laws of nature and social life are always manifested in single, concrete things and phenomena. There are no "laws in general" in nature. At the same time, individual objects and processes of the surrounding world, including

* Lenin, *Collected Works,* Vol. 38, p. 361.

social phenomena, have a multitude of individual peculiarities, unique specific features, due to the conditions in which they appeared. In practical activities, therefore, it is very important to study *concretely* the individual phenomena and the conditions under which they occur.

In order to understand, for example, the alignment of class forces in the October Socialist Revolution and the tactics of the Communist Party headed by Lenin, it is necessary to analyse thoroughly the concrete conditions which developed in Russia at the beginning of the 20th century and especially in the summer and autumn of 1917.

Mere knowledge of general propositions as to what a revolution is and what kinds of revolution there are, is insufficient for organising the victory of a *particular* socialist revolution. Hence it is necessary to take correctly into account the interconnection of the singular and the general.

You may ask: in that case why should we study general laws? Would it not be better to study only the concrete conditions and processes in which we are interested? To argue in this way would be quite incorrect.

In point of fact, as you will recall, the singular is connected with the general and the general reveals the essence of the singular. Consequently, it is important to study general laws precisely because they give us knowledge of the processes and properties characteristic of a whole group of phenomena.

In each case, by taking advantage of the knowledge of general laws, people use the experience of many generations and there is no need for them to "discover" them afresh. If, for example, the general laws of revolution have been studied, there is no need to "discover" them afresh on each occasion, they have only to be applied while taking into account the concrete conditions.

You can see from the above that in practical activities one cannot be guided by general propositions alone, applying them without taking into account the conditions in which the individual phenomena develop. Only knowledge of the dialectics of the singular and the general serves as a correct guide in practical activities. Hence, both an unfounded exaggeration of the role of individual, specific conditions in a given country (which is how the revisionists behave) and making general laws into an absolute (which is characteristic of dogmatists) are distortions of Marxism.

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The question of the dialectical connection between the general and the singular and its practical significance in the struggle for building socialism and communism occupies a prominent place in the documents of the Meetings of Communist and Workers' Parties held in Moscow in 1957 and 1960 and in the policy documents of the 22nd Congress of the C.P.S.U. These documents stress that the victory of socialism is achieved through the operation of laws common to all countries. These laws are:

leadership of the working people by the working class, the core of which is the Marxist-Leninist party, in carrying out the proletarian revolution in one form or another and in establishing the dictatorship of the proletariat in one form or another;

alliance of the working class with the bulk of the peasants and other sections of the working people;

abolition of capitalist ownership and establishment of public ownership of the basic means of production;

gradual socialist transformation of agriculture;

planned development of the economy aimed at building socialism and communism and raising the living standard of the working people;

achievement of a socialist revolution in the sphere of ideology and culture and the development of a numerically large intelligentsia devoted to the working class, the working people and the cause of socialism;

elimination of national oppression and establishment of equality and fraternal friendship between nations;

defence of the conquests of socialism from attacks by external and internal enemies;

solidarity of the working class of a given country with the working class of other countries—proletarian internationalism.

These general laws operate in all countries during the period of the replacement of capitalist by socialist society. In each country, however, they operate in a specific way, depending on the concrete historical conditions. During the building of socialism, the specific forms and methods of the implementation of the general principles of socialist construction in the actual conditions of a given country become apparent, and therefore the interconnection of the general and the individual is revealed.

The Statement of the Meeting of the Communist and Workers' Parties (1960) points out that the practical construction of socialism in the various countries is the basis of the collective experience of the whole socialist community. The comprehensive study of this experience by the fraternal parties, and its creative application and enrichment in accordance with actual conditions and national peculiarities, are an immutable law of development for each socialist country.

Knowledge of general laws (of the general) can be successfully achieved through the study of causal connections.

Cause and Effect

You know from experience that no phenomenon arises "of itself", without a cause. It results either from the preceding development of the phenomenon in question, or from other phenomena. Nothing arises out of nothing. Every phenomenon has its source, which gives rise to it. This is called the "cause". *A cause is something which creates, produces or evokes another phenomenon. That which arises through the action of a cause is called the consequence or effect.*

Thus, *the philosophical categories of "cause" and "effect" reflect a connection between phenomena by which one phenomenon called the cause inevitably evokes another phenomenon —the effect, and the connection is called a causal connection.*

Main features of causality

When steam makes the blades of a steam turbine revolve, the connection arising here between the force of the steam and the turbine exists independently of our consciousness, it exists in reality, in nature. It is evident from such examples that every causal connection is produced by really existing things. Hence, *the most important feature of a causal connection is its objective nature.*

In their fight against idealism, the materialist philosophers prior to Marx, such as Democritus in ancient Greece, Wang Chung in ancient China and Spinoza, Hobbes and Chernyshevsky in later times, upheld the major materialist theses of the objective nature of causality and the universal causal interdependence of the phenomena of nature.

Thinkers who adhere to the view that in nature and society there exists a universal causal interdependence of phenomena, an objective, law-governed necessity that is independent of man, are called *determinists.* They consider that the existence of all natural phenomena is determined by the effect of some cause or other, by the operation of natural laws. Everything that takes place in the world is necessary because, as these philosophers say, it is determined.

Throughout the history of philosophy, determinists have waged a struggle against the idealist denial of causality, against *indeterminism.* Idealists of various persuasions and trends take as their starting point that man creates the category of causality for "convenience", "economy of thought", for introducing order into the "chaos of natural phenomena". Thus, the subjective idealist Berkeley tried to refute the very notion of causality. In effect, Hume and Kant tried to do the same. Both of them denied the *objective* existence of causality.

They tried to justify their thesis of the *subjective* nature of causality by arguments such as the following. "A lighted candle," said Hume, "burns us every time we touch its flame. But it does not follow from this that in the future it will inevitably produce a burn. It has happened a million times but the million and first time may be quite different. Because a lighted candle has so far always produced a burn does not mean that it is the cause of the latter."

These two phenomena–the lighted candle and the burn–are alleged simply to exist alongside each other, but it cannot be concluded from this that there is a causal connection between them. Hume, of course, is wrong. We do not judge a cause merely on the basis of observations. We study it on the basis of experiment, of practice, which convincingly reveals *why* it is that, for example, a lighted fire inevitably produces a burn. Practice, experiment, reveals the causal interdependence of phenomena.

The Kantian-Humist treatment of causality was revived by the reactionary philosophers of the imperialist era–the Machists and their modern successors. The pragmatists of the present day, continuing the Machist line in philosophy, reject the objectivity of the external world and with it the objectivity of causal connections.

Causality is denied also by modern "physical idealists", including such physicists as Werner Heisenberg, Niels Bohr, Pascual Jordan. The West German physicist Gerhard Hennemann, for example, writes: "The law of causality in its classical formula is not applicable everywhere."

Why, you may ask, do bourgeois philosophers inveigh against the materialist principle of causality? Because scientific, atheist conclusions follow from it. If everything in the world results from natural causes, then God has absolutely nothing to do in it: everything that happens takes place not by God's will but due to the appropriate causes. The idealists, Lenin pointed out, deny the laws of science to make it easier for them to drag in the laws of religion.

The next feature of causality is its universal nature, the fact that the law of causality is a universal law of the material world. This means that there is no phenomenon which is not subject to this law, which could arise in spite of it, which could be devoid of the appropriate material source. You will certainly be aware from your personal experience that the law of causality has no exceptions. If something has happened, look for the cause: nothing arises in the world without it. This experience is embodied in common sayings "there is no smoke without a fire", "every pimple has a cause".

In practical life we always look for the causes of events. If there are serious shortcomings in, say, the quality of output, we look for their cause. By getting rid of the cause, we get rid of the shortcomings.

The following feature of causal relations results from their very nature: *a cause has an active character.* This is easy to understand from what has been said above: since a cause *produces* an effect, it behaves as an active entity. This does not imply, however, that the effect is passive and takes no part in the given process or development. If the sun's energy, heat, acts on a wet piece of canvas, the latter becomes dry. If this energy acts on a piece of wax, the result is different; the wax melts. If the sun's energy acts on a plant, the result is different again; processes vitally important for the plant take place under its influence. So a cause produces a definite effect only in relation to other things and phenomena. That is why we speak of a causal connection, a causal relation.

An infinite number of causal connections arise in the world, but they are not all of equal importance. There are

main, chief ones among them and these must be singled out first of all.

Let us analyse an example of low quality output. We have to look for its causes. Since many connections and relations are involved in production, there are usually many causes. Analysis always shows, however, that there are *main, chief causes, i.e., those determining all the other causes.* In our example this could be low technological and labour discipline, an insufficiently high level of organisation of production, lack of rhythm in work. In actual fact it is these that determine all the others; spoilage, for example, occurs where labour discipline is low. Non-rhythmic work, too, is the cause of many evils.

Chief and non-chief causes

It is important to find the main cause because this makes it possible to exert a decisive influence on the given effect. But this must not be taken to mean that causes other than the main ones can be ignored.

Interaction of cause and effect

Since cause gives rise to effect there is a definite connection between them. Metaphysicians, however, take a one-sided view of this connection, as being only the action of the cause on the effect. But does the effect influence the cause? The metaphysicians cannot give a correct answer to this question because they divorce the opposites—cause and effect—from each other.

A particular phenomenon, they argue, can be either a cause or an effect. If it is one it cannot be the other. As Engels puts it, the metaphysician sees cause here and effect there, but apart from their reciprocal connection, their dialectical unity.

The metaphysicians are wrong. There is interaction between cause and effect. Let us show this by an example. Matter, being, gives rise to consciousness, and consciousness in turn influences being, actively affects it, as we already saw in the fourth talk. Hence, *the interaction consists in the reciprocal dependence of cause and effect, in their influence on each other.*

"But," you may ask, "does this not mean that cause and effect condition each other to an equal extent?" Of course not, for cause always plays the decisive part in the causal connection. It determines the causal connection, while the

effect plays a secondary, although important, part. It is not a matter of indifference which of them is considered the cause and which the effect in a given causal connection, just as, for example, it is not a matter of indifference for science whether matter determines consciousness or vice versa. Here, too, however, this does not mean that the influence of the effect on the cause can be neglected.

Besides what has been said above, the concept of interaction has a second meaning, as can be seen from the following example. The cause of the electric current produced by a dynamo is the mechanical energy of rotation that is transformed into electrical energy. But this mechanical energy, too, has its cause. It lies, say, in the force of falling water. Hence, the mechanical energy of rotation is in one case a cause, and in the other the effect of another cause—the force of falling water. But the force of the falling water, which appears here as a cause, is itself an effect. It results from the cycle water goes through in nature, owing to which a definite level of water is maintained in the river on which the power station has been erected, and so on.

If you examine this chain of causal relations you will see that it consists of phenomena which are not isolated but connected with one another. Each cause or effect needs to be seen not in isolation but in its connection with the phenomena which have produced it or been produced by it. One and the same object or process is simultaneously both cause and effect. Seen in this way, cause and effect are no longer disparate, opposite poles. They are links in a complex chain of interacting objects and phenomena. Thus, as Engels says, *there exists in the world universal interaction, consisting in the fact that causes and effects continually change places; that which here or now appears as cause, there or then becomes effect, and vice versa.*

The Marxist-Leninist theory of causality is of great importance in refuting various kinds of superstitions.

Causality refutes superstition

Because one phenomenon precedes another in time it must not be thought that it is its cause. Yet this is a common mistake.

All superstition is based on such a mistake. Superstitious people link two phenomena in a causal connection, proceeding from external signs, merely on the ground that they are

somehow connected in time. If someone sees a black cat cross their path and afterwards suffers some misfortune, the conclusion is drawn that the cat is the cause of the misfortune. Because the latter occurred *after* the appearance of the cat, the conclusion is drawn that it is the effect of the cat's appearance, although there is no inner, deep-seated connection between these two events, but only a simple sequence in time. Thus, superstitious people talk of a causal connection between phenomena where no such thing exists.

Chernyshevsky cites the following example from history: "What was the essence of the ancient Romans' method of augury from the flight of birds? On one occasion before a battle they heard a raven cawing from the right-hand side, and they lost the battle; on another occasion they heard a raven cawing from the left-hand side, and they won the battle. The matter is clear . . . there is a causal connection. Thus the cawing of a raven on the right brings disaster, cawing on the left means victory.

"All superstition is based on this form of reasoning."

Only when man understands the real as opposed to the apparent causes of phenomena does he lose fear and with it superstition. Here is an example. At one time travellers in Africa used to assert that they had seen "in the sky" huge gardens of paradise. Sometimes they related that an aerial ship with sailors was to be seen in the sky. Later it all disappeared. How could this be? So long as the cause was unknown, all kinds of false interpretations were given. Subsequently, however, the causes of these unusual phenomena were discovered. It was found that in tropical countries during very calm weather the air becomes denser and forms as it were a gigantic mirror. In this "mirror" are reflected objects on the land or on the sea: gardens, ships, etc. Hence, people saw not gardens of paradise but the reflection of gardens actually existing on the earth; not aerial ships, but the reflection of ships floating on the water. It was enough to find the cause of these phenomena and the superstitious fear of them vanished.

Thus, knowledge of causes gives freedom from superstition.

The study of causes enables us to understand one of the most interesting phenomena of nature—its purposiveness.

Causality and purposiveness

A cursory glance at the world around us is enough to reveal in it a remarkable harmony and adaptation. It is not surprising that the world has been compared to a well-regulated organism. Particularly striking is the purposiveness seen in the organic world. Here are a few examples. Many flowers open in the morning. This is a purposive phenomenon, for insects collect pollen or nectar during the day. The flowers begin to open shortly before dawn, as if "knowing" that it will not be long before the sun rises. Plants have, as it were, a time "memory". Even if they are kept for some time in darkness their flowers continue to shut up in the evening and to open in the morning. It is as if the flower knows when the sun rises.

The purposiveness, the "rational" character of nature is seen also in the adaptation of plants and animals to their conditions of life, their environment. Birds spend much of their lives in the air and their bodily structure is adapted for this purpose. It is as if nature set itself the task of covering their bodies in such a way as to keep their weight down to a minimum while providing them with reliable protection from cold. The entire structure of birds is adapted so as to facilitate their flight.

We have mentioned only a few instances of the purposiveness of nature. It is so obvious that people cannot fail to notice it. Hence from time immemorial they have been faced with the question of how these remarkable phenomena are to be explained. What are they due to?

The idealists and churchmen, being unable to explain the facts of purposiveness and orderliness to be met with everywhere in nature, assert that the origin and development of natural phenomena is determined not by material causes, not by the laws of nature, but by the aim they serve and for which they are destined, *by the purpose for which* they exist.

Such a view is called *teleological* (from the Greek "telos"—aim).

From this the churchmen draw the following conclusion. All orderliness, all achievement of aims through using definite means, presupposes reason, mind. Nature actually exhibits order and the achievement of definite aims. Hence, a supreme

mind–God, the "magical creator"–is at work in nature. The purposiveness, the wisdom of nature, is due to the existence of a wise God. He is the "master craftsman" who has created the great mechanism. Engels, ridiculing such arguments, remarks that according to the teleological view of the world "cats were created in order to eat mice, mice to be eaten by cats, and the entire world–to prove the wisdom of the creator".

The theologians judge the "force of reason" which "created" the world from how rationally it is constructed. To this day such "proofs" are used by idealists or theologians. Here, for example, is what *The Encyclopaedia Americana* says: "A review of all the purposes that exist among living things makes it quite impossible to believe that they were developed without a Designer."*

But is that the case? Has teleology any scientific basis? Let us look into this.

First of all, it must be borne in mind that however much we rack our brains over the aim for which a particular phenomenon has arisen, we shall not get a step nearer to discovering its nature. To understand a phenomenon we must know the *causes* owing to which it arose, what *gave rise* to it and what it is connected with. Only by putting the question as to *why, by virtue of what causes* is there a remarkable purposiveness in nature, can we understand the nature of the phenomena occurring in the world. The teleological standpoint, however, is directed against such a scientific, causal explanation of natural phenomena.

When the genuine, objective causes of the phenomena occurring in the world are discovered, they afford convincing proof that *in nature there is no mysterious inner aim, divine intentions, or power of a supreme mind.*

Here is a striking example. At the seaside in summer you have probably seen insects jumping about among the moist pebbles. Suddenly, however, they go farther away from the water. This does not happen by chance; after some time there is a storm. The insects, as it were, "knew" about it in advance. Before a storm occurs, fish try to swim away from the coastal area so as not to be cast ashore. Jellyfish also disappear.

* Vol. 18, p. 184.

In thinking about this behaviour of living organisms it is difficult not to be influenced by the idea of the "miraculous nature" of such phenomena. But when science reveals their natural causes, everything becomes clear. It has been established that when a storm breaks out at a distance from the coast, sound waves that are imperceptible to human hearing reach the shore. They travel some thousands of miles. The distant storm makes itself felt long before it reaches the coast. Unlike man, marine animals can perceive these sounds. They have a "premonition" of the storm and seek safety in good time. "Rational" behaviour here is based on real, natural causes. There is nothing supernatural about it. It is clear, therefore, that *only science, and not religion, can explain the facts of purposiveness.*

Let us now examine the value of the churchmen's statement that since there is orderliness in the world, there must necessarily be some higher principle that "guides" it. Can such orderliness exist without such a principle? Materialist philosophy answers that it can, and is in full agreement with science, for the development of the world takes place on the basis of natural causes, objective natural laws. The absence of chaos and confusion in the world is precisely because the latter is subject to definite laws, to a natural order of things, because it develops according to the laws of matter in motion.

How, for example, is the purposiveness of organic nature to be explained? Darwin showed that this purposiveness is brought about in a natural way. The purposiveness, the harmonious adjustment, which so surprises us in organic nature, has developed on the basis of natural laws and natural causes during the many centuries of evolution.

Instead of barren arguments about the aim pursued by the "Creator", Darwin devoted himself to finding out the actual, objective causes and laws of development of the animal world. He succeeded in discovering the secret of the purposiveness in the organic world. The key to understanding it is Darwin's *theory of natural selection.* The central point is that in nature millions of organisms perish for each one that survives. What decides the fate of living organisms? Nature itself decides! The question as to which of them will live and produce progeny and which will perish in the struggle for existence is decided on the basis of the immutable laws of development of

nature itself, without the intervention of "a supreme power". The result is what Darwin termed natural selection, for it takes place on the basis of *natural* causes and laws. Those plants and animals survive which are better adapted to the conditions of their environment.

Thus, the struggle for the best adaptation to the conditions of life or, what is the same thing, the struggle for existence, results inevitably in the preservation of the most perfect creatures, those best adapted to the conditions of their existence. In the course of hundreds of thousand generations there arise in this way species of animals and plants whose life displays a high degree of purposiveness in the existing conditions. And this purposiveness is not imposed from above but has developed in the course of centuries of evolution.

Take, for example, the wonderful "premonition" of a coming storm that certain marine animals seem to possess. How is this to be explained? Because in the course of evolution it was just those organisms which developed the ability to perceive the spreading sound vibrations and thus save themselves from the storm that survived in the struggle for existence. They had a great advantage over animals which did not possess this ability and therefore perished in the struggle for existence. Thus, by means of natural selection, without any intervention of supernatural powers, there came into existence in those animals that which strikes us by their "rationality" and "purposiveness".

The same thing applies to the ability of plants and animals to "measure" time with great accuracy and to "co-ordinate" their physiological processes with its passage. This ability developed during many centuries of evolution as a result of the adaptation of plants and animals to law-governed changes of the environment in time.

While retaining the old word "purposiveness", science gave it a new meaning. Instead of an assumed purpose we reveal the real cause. The perfection of the organic world is the inevitable necessary result of the laws of nature, of natural causes.

It has to be borne in mind that causes are of different kinds; some produce necessary phenomena, while others produce accidental phenomena.

Necessity and Accident

The scientist Becquerel once borrowed a small quantity of radium from the famous physicist Pierre Curie in order to show it to his students during a lecture. The radium was in a tube which he put in his waistcoat pocket. Some days later Becquerel noticed exactly opposite his waistcoat pocket a reddening of the skin that had taken the shape of the tube. This accidental circumstance led to a study of the influence of the rays from radium on the human organism. It seems that if it had not been for this accident, people would not have known anything about radiation sickness and the deadliness of radium. Is that so? Some people would answer "yes".

They extend this view to our life as a whole, which they declare to be a chain of accidents. Those holding such views can be heard to say "chance helped, chance hindered". Everything, including the world and all that takes place in it, is ascribed to the caprice and unexpected results of accident.

Other people object to such assertions. They say: in nature there is not and cannot be anything accidental, since everything occurs on the basis of definite causes and laws. Why did Becquerel take radium to his lecture? Because the time had arrived to talk to the students about radium. Hence there was an appropriate cause. The burn on his body was also due to a definite cause: radium affects the organism and cannot fail to affect it. Consequently the burn had not one cause, but a whole chain of causes. It happened by necessity, there was nothing accidental about it.

But why then are some occurrences said to be accidental? Those who support the above-mentioned viewpoint explain this as follows. People who do not know the causes of a particular event call it accidental. It suffices, however, to make a proper search and find the causes that gave rise to the phenomenon, and the apparent accident disappears. The phenomenon proves to be necessary, causally determined. Such was the theory upheld by philosophers like Democritus, Spinoza and Holbach.

There are, therefore, two opinions. Some say that everything in the world is necessary and nothing accidental. Others, on the contrary, maintain that everything in the world is accidental. Which is right?

Since the adherents of the latter view deny causality, obedience to law, and this is in contradiction to the facts, to science, they are wrong. Indeterminism must be rejected.

As regards their opponents–the determinists–we should not be in a hurry to conclude that they have correctly solved the problem; the matter is rather more complicated. Determinism can be conceived in different ways. It is necessary to distinguish between *metaphysical,* or mechanical, *determinism* and *dialectical determinism.*

The characteristic feature of metaphysical determinism is that in recognising everything in the world to be causally determined, law-governed, it denies the existence of accidents (dialectical determinism, as we shall see later, admits accident). Insofar as metaphysical determinists recognise that all phenomena of nature have their causes, that nothing takes place in the world without any cause, they are right.

Are they right, however, in denying accident on the grounds that all phenomena have their causes? Of course not. The whole point is that both metaphysical determinism and indeterminism recognise only *either* necessity *or* accident. The question is posed in the form: *either* everything in the world is necessary, *or* everything is accidental. *Either–or*; this is the usual metaphysical formulation of the question. It follows that both standpoints are limited, since they divorce accident and necessity from each other. What is the correct solution?

What is necessity?

To answer this question let us begin with an example. In November 1918, owing to the influence of the Great October Socialist Revolution in Russia, a revolution took place in Germany. It was, however, defeated because of the treachery of the Social-Democrats. In this connection, the newspaper *Rote Fahne (Red Flag)* on January 15, 1919, published an article by the leader of the German workers, Karl Liebknecht. Addressing the participants in the revolution, he wrote: "Keep calm! We did not flee, we are not routed. And if they put us in fetters, we shall still be there and shall remain! And victory will be ours.... Whether we remain alive or not, when the goal will be achieved, our programme will live, it will prevail in the world of emancipated mankind. Despite everything!" These fiery words of the German workers' leader splendidly express the idea of the necessity, the inevitability, of the victory of socialism and communism: "Despite everything!"

What are the grounds for this assurance, which inspires such terror in the opponents of communism? It is knowledge of natural laws. We do not doubt that after the night has lasted some hours the sun will rise and morning come. Nor is there any reason to doubt that however hard the winter frosts, spring will come, nature's time of renewal. Such certitude is based on practice, on centuries of experience, on knowledge of the laws of nature and society. The alternation of night and day is due to the rotation of the Earth about its axis, the sequence of the seasons—to the movement of the Earth around the Sun, and the victory of communism, to the inner contradictions which rend the capitalist system, leading to its inevitable downfall and its replacement by the socialist system. As the Programme of the C.P.S.U. states: "Socialism will inevitably succeed capitalism everywhere. Such is the objective law of social development. Imperialism is powerless to check the irresistible process of emancipation."*

It is this constant interconnection of phenomena that is denoted by the philosophical category "necessity". *Necessity is not something that exists, but could just as well not exist; it is that which is absolutely bound to be, since it is produced by deep-seated causes and connections, and therefore results from the innermost nature of a phenomenon, from its essence.*

Since everything in the world is necessary, does the accidental exist? Here, too, it is useful to begin with examples.

Does accident exist?

In a factory several workers fell ill all at once. As a result, the production plan was not fulfilled. Or a man was involved in a car crash and the accident cost him his life. Why do we call such occurrences accidental?

Compare them with those spoken of above which we call necessary. Whereas a necessary phenomenon is prepared and evoked by the entire inner course of development and therefore cannot fail to occur (recall the words "Despite everything!"), accidental phenomena, on the other hand, are spoken of as something individual, transient, not at all inevitable.

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* *The Road to Communism*, p. 449.

An accidental occurrence may take place, but may also not take place. Was it indeed inevitable that several workers in a particular workshop would fall ill simultaneously? Was the man's life such that it inevitably had to be cut short by a car accident? Of course not. Such events cannot be called necessary. They are accidents. The entire innermost course of developments did not lead up to what happened.

When in October 1957 the U.S.S.R. blazed a trail in space by launching the first Earth satellite, some bourgeois propagandists in the West asserted that this result was an accidental, isolated achievement. It was, of course, nothing of the sort. Underlying the success achieved was the socialist system itself, and the attention which the Communist Party and the Soviet Government have always devoted to the development of science.

The flight of the sputnik testified to the maturity of Soviet technology and the great achievements of Soviet science in such decisive fields as mathematics, physics, chemistry and metallurgy. How could this be called accidental? An accidental event is such because it is not derived from the nature of a given process. The sputnik, however, was the result of the entire history of development of the Soviet Union.

Consequently, in order to answer the question whether a given phenomenon is accidental or necessary, one must find out whether it has resulted from internal or external causes.

If a field of wheat, sown and cared for according to all the rules of agricultural technique, is destroyed by hail, is that accidental or necessary? The hail, of course, has its causes. But did these lead inevitably to the destruction of the wheat in this field? They did not, for the following reason.

Hail does not occur without its causes. But for this *particular* field they were *external,* transitory causes which were not derived from the essential conditions of development of the wheat. Hence, the event was accidental. The destruction of the wheat was not at all obligatory. The effect of the hail in this particular field was accidental.

From what has been said it is clear that accident and necessity are opposites. But does it follow that they have nothing in common?

What necessity and accident have in common?

Metaphysicians maintain that what is necessary cannot be accidental, and what is accidental cannot be necessary. Ordinary common sense, too, seems to support this conclusion. But let us examine whether this is so.

Recall the example given earlier. The burn suffered by Becquerel was actually accidental, for if he had not put the tube with radium in his pocket it would not have happened. But let us see what lies behind this accident. Previously radium occurred in minute amounts in uranium ore. Hence, it would have been difficult to discover radioactivity. It was a different matter when the Curies had isolated it in the pure state. After that its action on living tissue was bound to be discovered sooner or later. And this was seen in the case of Becquerel. If it had not happened in his case it would have happened in another. It follows that in life, in reality, *there is a great deal in common between accident and necessity, they are closely connected.* It is impossible to divorce one from the other.

The connection between necessity and accident is seen also in the fact that under definite conditions they can be converted into each other. Some new characteristics of an animal (for example, a thicker fleece) may arise accidentally. This accident may prove very useful in the struggle for existence: it may help an animal living in the north to adapt itself better to its environment. Subsequently these accidentally acquired characteristics are transmitted by heredity and after a number of generations a new species of animal with a thicker fleece makes its appearance. This specific feature has now been converted from an accidental into a necessary one. That is why Engels says that *accident is the form of manifestation of necessity, it serves to supplement it.*

Behind accident, one must always be able to see necessity, the regularity on the basis of which it takes shape. In nature and society there are no accidental phenomena which do not have behind them some necessary, law-governed process.

It follows from what has been said that in nature and society there are no phenomena which are "only" necessary or "only" accidental. In reality they exist together and are interwoven. Necessity is always manifested in the form of accident. A tree grows in accordance with definite botanical

laws. But that it has such and such a number of leaves, and that each of them should be of such and such a size and form, depends on a multitude of accidental influences, including the amount of rain they received during the summer, the kind of wind to which they were exposed, etc. It follows that the accidental and the necessary are closely interwoven here.

Does this mean that there is no difference between accident and necessity? There is a difference, but it has to be correctly explained. The metaphysician considers that the difference is that a necessary process has a cause, while an accident has no cause. But, as we have seen, no phenomenon can arise without a cause. An accidental phenomenon also has its cause. Wherein then lies the difference?

Already Hegel pointed out that in a necessary process the cause appears as something that is intrinsically inherent in it. In an accidental process, however, the cause is something external in relation to it. Take, for instance, the following example. In the thirties there was an economic crisis in Japan, as in the capitalist world as a whole. At the same time a powerful earthquake occurred in Japan, and this further worsened the economic situation of the country. Here socio-economic causes necessarily evoked a crisis. The earthquake, however, was an accidental, external, phenomenon in relation to such a social phenomenon as the crisis. In relation to the phenomena which produced it, however, it was necessary.

The necessity of this accidental phenomenon, its causal determination, lay in another field of phenomena, that of geology. Hence, it is said that the accidental is necessary in relation to the phenomena, the causes, which produce it. *Necessity and accident are relative terms.*

Thus the dialectical conception of accident, while recognising that everything in the world has a cause, requires that a distinction be drawn between accidental causes, i.e., those which may or may not occur, and necessary causes, i.e., those arising from the internal development of the phenomena in question. Hence, not every causally conditioned phenomenon is necessary as the metaphysical determinists believed. Dialectical determinism, while recognising that everything in the world is causally conditioned, recognises accident as well.

Yet another important conclusion can be drawn from the above. Necessity determines the chief direction, or tendency, of development. In each individual process, however, accident *supplements* necessity by a series of unique features, thus giving rise to the *form* in which necessity is manifested. Science pays special attention to ascertaining the necessity, the regularity of developing phenomena precisely because it is called upon to discover the tendency of their development.

Science cannot rest content with accidental discoveries alone. A scientist must carry out research in such a way as not to be dependent on accident but to attain the desired goal with certainty and to act not by groping, but with knowledge of the matter in hand.

The eminent Soviet biologist, Michurin, sharply opposed those scientists who relied on accident instead of knowledge of the laws of nature's development. He said that we must not await favours from nature, we must wrest its secrets from it—that is the task of science. To wait until nature accidentally produces something that could be of use to man merely means to be dependent on accident, on treasure-hunting.

The following example is of interest in this connection. For many years scientists tried in vain to decipher the writing of the Maya Indians, the ancestors of the peoples of Guatemala and Mexico. It is well known that an accident was of great assistance in deciphering the hieroglyphic writing of the ancient Egyptians: a stone was discovered with the same inscription in two languages—Greek and Egyptian. The scientists who were investigating the Maya language were hoping for a similar fortunate accident. But it did not occur and their efforts were of no avail.

The young Soviet scientist Yuri Knorozov adopted a totally different method. He began to study the general laws underlying the Egyptian, Chinese and other languages which, like the Maya language, are based on hieroglyphics. Proceeding step by step, solving one riddle after another, the Soviet scientist made a discovery of world importance: he found a method of deciphering the Maya language. His success was due to the fact that he did not wait for a lucky accident, but penetrated deeply into the subject of his investigation.

Every geologist knows that few discoveries could be made by carrying out prospecting haphazardly. For successful geological prospecting it is necessary to study the laws governing the structure of the earth's crust and be guided by them in practical activities. Then there will be no dependence on lucky accidents and successful results are assured.

The dialectical connection between accident and necessity enables us to understand an important problem of the struggle against modern indeterminism, one connected with so-called dynamic and statistical laws.

Dynamic and statistical laws

In science it is customary to distinguish between two kinds of laws—*dynamic* and *statistical*. The former are met with in physics. Galileo's law, which states that "All matter would descend with equal velocity", is of this kind, as is also Newton's second law: "Momentum is proportional to the force applied and is in the direction of this force."

The characteristic feature of such laws is that they apply not only to some or a majority of phenomena, but to all phenomena subject to its action. That is why it is possible correctly to predict the occurrence of a particular phenomenon if the conditions and causes producing it are known.

Astronomy provides striking examples of this by predicting the occurrence of eclipses of the sun or moon many decades in advance. Classical physics enables us to establish the location of a body at any moment if we know its velocity and its place at a particular moment. If it is known that a train is moving with a speed of, say, 60 miles per hour, it is possible to know where it will be after two hours, three hours, etc.

In classical physics, therefore, the motion of a body is presented as strictly determined by the operation of the causes which have given rise to the *necessary* and *inevitable direction* of its motion. This necessary process can be predicted in advance with complete accuracy.

Study of the laws of mechanical motion gave rise in classical physics to the concept of dynamic laws (from the Greek "dinamikos"—powerful, operative).

Science, however, is also acquainted with facts that are subject to statistical and not dynamic laws. To understand their nature let us make a little experiment. If you toss a coin up it is impossible to say in advance whether it will

come down heads or tails. But toss it up, say, 5,000 times and it will be found that a regularity operates; there will be approximately 2,500 heads and 2,500 tails. Always, when a large number of trials are made, nearly half the results are heads and nearly half are tails. Thus, from a number of cases of accidental phenomena we derive a law which applies to all of them together. This is called a statistical law.

The point is that we cannot predict whether any individual result will be heads or tails. If we were to learn how to determine all the conditions leading to a given result it might be possible to foretell it. But with a small number of trials there is simply no regularity at all. It only makes its appearance with a large number of trials, that is to say, statistically.

We quite often find it necessary to study the laws of a whole complex of accidental individual phenomena, i.e., their statistical laws. Depending on the nature of the phenomena, they are studied by the theory of probability or by social statistics. Accidental occurrences also are subject to definite laws–the laws of chance.

Here are some examples.

It is known from physics that the molecules of a gas move in a chaotic fashion. It is impossible to tell in advance the direction of motion and speed of each molecule. By colliding with the walls of the containing vessel and with each other, the molecules continually alter both their direction of motion and speed. How many times per minute a particular molecule will strike a wall of the vessel is a matter of chance. But the pressure of the gas on the wall of the vessel is a measurable quantity. Yet this pressure is dependent on the number and force of the impacts of the molecules against the wall of the vessel, that is to say, on these accidental, chaotic movements of the molecules!

The motion of each gas molecule is accidental. For each one individually there is no orderliness, no regularity. But the pressure of the gas as a whole on the wall of the vessel displays a regularity which is seen in the fact that under definite conditions this pressure has a constant value. A statistical law operates here.

Or let us take another example.

Whether a new-born baby is a boy or a girl seems at first sight not to be subject to any law. Some families have only

boys, others have only girls. Data covering a large number of families, however, show that there exists a certain regularity: for each 100 girls born the number of boys born is 105.

What does this indicate? It shows that the law operating through accidental phenomena remains imperceptible in the case of a small number of observations, but that it is manifested when the number of facts is sufficiently large.

These laws were given the name of statistical laws, i.e., laws applying to a whole class of accidental phenomena. The statistical method makes it possible to discover such laws.

This fact became a subject of acute controversy between determinism and indeterminism.

The point is that early in the twentieth century scientists discovered that the motion of the microparticles of the atom is subject to statistical and not dynamic laws. It was found that it was *in principle* impossible to determine the location of a microparticle on the basis of the laws of classical physics. This means that its motion is not subject to strict determinance. The future motion of an electron cannot be determined: it may be found anywhere, at any one of a large number of places. The electron does not have a strictly determined path of motion or trajectory. Comparing that with what was said above about the motion of the planets, which have strictly determined paths in accordance with dynamic laws, it will be seen that the difference is really vast.

What conclusion was drawn by modern bourgeois scientists? They began to argue as follows. Since we cannot know in advance the direction of motion of an electron, it follows that it is not causally determined. Otherwise we could calculate it beforehand, since a definite cause always has a definite effect. But there is no definite effect in the case of the electron, hence, it does not have a cause. The electron possesses "free will", i.e., the ability to move wherever it likes, it is not restricted by any causes, it is not determined, and therefore not bound to move only in one direction.

On the basis of these and similar arguments, scientists who adopted the standpoint of philosophical idealism drew a conclusion about the "collapse of determinism".

But is this conclusion valid?

In the first place it should be borne in mind that although in the microworld it is not possible to find the law of motion of an individual particle, the laws of motion of a

whole aggregate of particles are known, that is to say, statistical laws. But does the existence of these laws denote the triumph of indeterminism, as modern idealists in the West try to prove? Does the existence of these laws prove the "collapse of determinism"?

By no means. The new data of the physics not only do not confirm anti-scientific indeterminist conclusions, but actually refute them, being the best confirmation of dialectical-materialist determination.

The idealist philosophers start out from the fact that the motion of an individual electron is undetermined, accidental. But that is not really the state of affairs. The accidental, as we have seen, also has its cause; it, too, is conditioned. This is shown by statistical laws. What appears superficially as the accidental motion of a mass of elementary atomic particles has in fact a deep inner connection susceptible of mathematical calculation in the form of statistical laws.

The statistical aggregate consists of individual microparticles. There is a profound dialectical connection between this aggregate and the microparticles just as there is between a whole and its parts or between the general and the singular. It is therefore incorrect to think that the aggregate as a whole is subject to the operation of definite laws, while each microparticle separately is not subject to any laws, is "free" and causally unconditioned. The situation is just the reverse of this.

As we have seen, the general is always connected with the singular. By studying the laws of the whole, of the general (the aggregate of microparticles), we discover the laws of the singular, particular (of the individual microparticle). If we cannot study the behaviour of the electron by the usual methods of classical physics, but have to have recourse to statistical methods, this by no means indicates the absence of causal connections in this case, but merely that the world is complex and contradictory, and that it is impossible to study all forms of moving matter by a single method and to reduce all laws to a single, dynamical law.

The idealists claim that the existence of statistical laws is proof of indeterminism, proof that the principle of causality does not apply in microphysics. In actual fact, statistical laws prove just the reverse. They are convincing proof of the existence of definite causes. Here is a homely example.

Everyone knows that the customers of a baker's shop are not "permanent" but varying. They are, as it were, accidental phenomena. If, however, the purchases are counted up over a period of days or weeks, it will be found that the number of loaves sold is almost constant. With a large number of facts, a statistical law begins to operate. Does this indicate the absence of any cause or, on the contrary, that it is the result of definite causes? Let us examine this question, for it is very important for understanding the essence of the problem.

You will agree that each area has a definite number of inhabitants with more or less definite tastes and desires. The constant number of loaves sold testifies to the operation of constant general causes and conditions. They are not evident from an examination of each case separately, which shows no orderliness or consistency but only accidental variations. But it suffices to take a large number of facts and a regularity is displayed, and along with it the general causes and conditions that produce it.

The existence of statistical laws proves that since accidental phenomena in their totality obey a definite law there cannot be any chaos in regard to them. They clearly demonstrate the existence of orderliness and regularity in the microworld (a characteristic feature of the law-governed development of objective phenomena). The statistical method makes it possible to ascertain these regularities solely because accidental phenomena are subject to the objective law underlying them.

Statistical laws, therefore, *scientifically confirm the truth of the dialectical-materialist theory of the universal connection and causal dependence of the phenomena of the objective world. This is the triumph, not the "refutation" of determinism.*

Many accidental occurrences are advantageous to man, but there are others which cause grief and suffering, such as drought, floods and other natural disasters. Science tries to limit their operation by studying necessity and laws.

The struggle against undesirable accidents

But is this possible, in view of the fact that accident is an objective category? You may say: "How can it be possible to limit the operation of something that does not depend on man?" It is indeed by no means always

possible to do away with accidents, but we can and must do away with their undesirable effects. It has not yet been possible, for example, to do away with accidental occurrences connected with vagaries of the weather which may cause harvest losses or even the destruction of crops. It is possible, however, to limit the effects of undesirable accidence, since these effects depend on the conditions in which they are manifested. Hence, we have to create conditions in which the deleterious effect of accidents is reduced to a minimum or completely abolished.

The Soviet state and the Communist Party are carrying out truly gigantic work in this field. The Programme of the C.P.S.U. stresses that during the gradual development of socialism into communism the growth of productive forces in agriculture will be such that "the dependence of agriculture upon the elements will decrease considerably, and ultimately drop to a minimum".*

With this aim in view the Programme of the C.P.S.U. envisages a series of major economic measures: the adoption of a scientific system of agriculture and livestock breeding; the achievement of more stable and profound specialisation in agriculture; consistent introduction of chemicals in all branches of agriculture; wide application of the achievements of biological science; the carrying out of an extensive programme of irrigation; expansion of field-protective afforestation, building of water reservoirs and watering of pastures; systematic combating the water and wind erosion of soil.

In their practical activities the Communist Party and the Soviet Government are doing their utmost to make it impossible for any accidental occurrences to catch the country unawares. This concerns both the internal life of the country and its position in international affairs. The Soviet Government has more than once warned that some stupid accident, such as damage to the technical control of an aeroplane carrying a hydrogen bomb, or the mental illness of its pilot, could set off a world conflagration. It cannot be permitted that the question of peace or war should be at the mercy of blind chance.

* *The Road to Communism*, p. 523.

The Soviet Government has proposed general and complete disarmament under strict international control, for a world without arms is the best guarantee against all unforeseen contingencies and accidents of the kind mentioned above. But precisely because under modern conditions war may break out by accident, vigilance on the part of the peoples of the world is particularly important. The Communists of all countries have urgently appealed to all nations to strive indefatigably for a solution of the most urgent problem of our time—the problem of peace.

"All right," you may say, "such accidents can actually be prevented. But how can we prevent the simultaneous illness of a number of workers, as in the case previously mentioned? Or how can we prevent fatal accidents?" Such accidental occurrences, too, can be reduced to a minimum, one has only to create the conditions in which either the accidents themselves or their disastrous effects are reduced to a minimum. The Programme of the C.P.S.U. envisages the adoption of a series of such measures. It states: "Modern means of labour safety and hygiene designed to prevent occupational injuries and diseases will be introduced at all enterprises."*

It is particularly often necessary to reckon with the possibility of accidental occurrences in science and industry. In the construction of dams or railway bridges over rivers, for example, it is important to know the maximum height of the water in the river; the dam or bridge must be sufficiently high and strong so as not to be damaged when the flow of water is large.

To calculate this maximum water level is not an easy task, for it depends on many accidental circumstances such as the amount of rain or snow in winter, the rate at which the snow melts, the presence of forests nearby and their nature, the nature of the soils in the area, the direction and force of the wind during the thaw, etc. Only an unfavourable coincidence of these factors could give rise to the phenomenon in question. It could happen once in fifty or even a hundred years. It is impossible to tell whether it will occur tomorrow, next year or after a hundred years, but by making the dam strong enough people set at naught the destructive effects of such accidents.

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* *The Road to Communism*, p. 542.

Thus, man is not powerless in the face of the effects of undesirable accidents. He has possibilities of preventing or reducing to a minimum their destructive force.

The problem of freedom is also closely connected with the category of necessity.

Necessity and Freedom

We have already spoken of the historical necessity of the victory of socialism over capitalism. At the present time the peaceful coexistence of the two systems–socialist and capitalist–is also historically necessary.

Is it worthwhile then to make an effort to bring about what should inevitably happen as the result of natural necessity?

This question is sometimes put in another form. Is there any possibility of dynamic, free acitivity where everything is necessary, law-determined? For centuries this question has been the subject of dispute between those known as fatalists and voluntarists.

Fatalism and voluntarism

Voluntarists ascribe to the human *will* a decisive role in the development of the world. They do not take account of objective conditions, laws and historical necessity. They conceive freedom as the absence of "restrictions" on the human will. But this is an erroneous view. Nothing in the world arises and acts without cause. Consequently, the human will, too, cannot be independent of anything and act purely arbitrarily.

Fatalists adopt the opposite view. They believe in blind fate, and this belief is based on the idea that everything in the world is ordained by God and man is powerless to change anything.

The views of the fatalists doom people to inactivity. If people consistently adhere to the fatalistic principle they should sit with folded arms, knowing that God has foreseen everything and created everything in accordance with his "ordained harmony". This gives rise to a feeling of helplessness. Such a theory undermines the working people's faith in their strength, in the possibility of changing the reactionary system of exploitation.

The harmfulness of the fatalistic attitude can be seen from the following example. Some people in the West are not averse to "proving" the "fatal inevitability" of war and the armaments race. In their view, man is powerless before it. But the real state of things is different. The Soviet Government has stated that it by no means accepts rivalry over armaments as a fatal inevitability that is always bound to accompany mutual relations between countries.

Thus both points of view—the voluntaristic and the fatalistic—are erroneous. They approach the problem metaphysically and recognise either freedom or necessity. Either everything is due to free human activity, and then there cannot be any necessity, or everything is due to law-determined necessity, and then there cannot be any freedom. Freedom is incompatible with necessity—that is the basis of such views.

Where is the correct solution to the problem?

What is freedom? Its connection with necessity

In everyday life the word "freedom" is often taken to mean the absence of restrictions or prohibitions. It is sometimes thought that necessity, obedience to natural law, precludes freedom: since there is necessity, there is "restriction", "hindrance", and so there cannot be freedom. Solving the problem of freedom, therefore, means deciding the question whether it is possible to be free while subject to the laws of natural necessity.

Let us take an example. To explore space man has to overcome the law of universal gravity which, as it were, binds him to the Earth. But can he do so without taking this law into account, in defiance of it? Of course not.

For a spaceship to go into orbit it has to attain a velocity at which its centrifugal force is greater than the earth's gravitational pull (this velocity is about 8 km per second). Scientists were able to send the ship into space not by defying the law of universal gravity, but as a result of profound study of it.

When Soviet scientists sent a rocket to the moon they, of course, based themselves on the law of universal gravity. The rocket was given a precisely set velocity, which enabled it to overcome terrestrial gravity, following which the Moon's attractive force caused it to land on the Moon. This example clearly shows how incorrect are those who argue: "We lose our freedom if we subject ourselves to natural

laws, to necessity," and who look for ways of circumventing these laws, "the necessity that hampers freedom". Such people conceive freedom as being freedom from laws. But this is incorrect.

Our example shows that the scientists did not go against necessity but acted in accordance with it, with natural laws. They acquired their freedom, their power over nature, through getting to know and utilising the laws of nature, natural necessity. In this way they achieved outstanding successes. Long ago Francis Bacon said nature could only be conquered by obeying its laws.

Where then is true freedom manifested? Is it where no laws are recognised, or where these laws are ascertained and utilised? It is clear that the second alternative is the correct answer. Lenin expressed this idea by saying: Necessity is blind until it is known. But if necessity, law, is known, if we make its action subject to our interests, we are the masters of nature. Engels wrote: "Freedom does not consist in the dream of independence from natural laws, but in the knowledge of these laws, and in the possibility this gives of systematically making them work towards definite ends."*

This applies both to the phenomena of nature and those of social life. Prior to the appearance of Marxism, the laws of social development were unknown. People remained slaves to historical necessity. Marxism revealed these laws. This was the first step towards a situation in which the working people, by equipping themselves with these laws, could become true masters and free creators of their fate. The socialist revolution converts this possibility into a reality.

Thus, *people's free activity does not consist, as the voluntarists suppose, in taking no account of laws or objective processes, and in acting as they like. Marxism regards genuine freedom as the recognition of necessity. Man's freedom implies knowledge of the laws of the development of nature and society, skilful application of these laws in practical activities. Man's freedom cannot transcend the bounds of necessity.*

"What kind of free activity is that, if it is 'restricted' by necessity?" it is sometimes asked. "In that case necessity

* Engels, *Anti-Dühring*, p. 157.

prevails all the same, whereas man is free, it may be said, when he can choose any decision for his activity, in defiance of anything."

The whole point is that there is no such freedom. A good illustration of this is provided by the following parable.

There was once a dispute between a Weather Vane and a Compass Needle.

"I am free, I can turn in all directions, wherever I like," boasted the Weather Vane. "Af for you, however they turn you, you have to stick to one direction."

"What sort of freedom is yours!" retorted the Compass Needle. "You don't swing to and fro of your own free will. You are at the mercy of the wind. That is why you fidget so. Your freedom is short—from one gust of wind to another. Any little breeze sways you, whereas I point steadily to the far-off distance. I am true to the attraction to which my magnetic nature invariably responds. I am not dependent on the caprices of the weather and always point in the same direction. It is by that that people everywhere find the right path."

Reflect on the meaning of this parable and you will realise that freedom can never be conceived as the arbitrary choice of a decision as to one's activity, in defiance of anything. The Weather Vane also thought that it turned of its own free will, but actually it was at the mercy of the wind.

A petty-bourgeois intellectual in a capitalist country considers that he has chosen his way of thinking absolutely "freely", that his desires and habits are the result of "personal freedom". In reality, however, he is a slave to the conditions in which he lives, to the private property instincts which are fostered by his whole way of life. There is not a trace here of "personal freedom" in the sense in which bourgeois scientists talk of it. Everything here is subject to necessity. Under capitalism this necessity makes its appearance in the form of blind social forces. People here are subject to ill winds like those that blew in the parable.

Quite different is the freedom under socialism, which is based on *knowledge of necessity*. The laws here no longer operate as blind social forces. People's activity is based on a deep knowledge of the laws of social development.

Necessity and people's dynamic activity

Enemies of Marxism assert that it inevitably leads to fatalism, to denying the free dynamic activity of people, because it regards the development of the world as the result of the operation of objective laws independent of man's will or consciousness. What they mean by this is that Marxists conceive the development of the world as an inevitable pre-determined process. And if Marxists nevertheless speak of dynamic, free human activity, they are alleged to contradict their own doctrine in doing so.

If communism is bound to come, they say, why should one wage a struggle for it? One needs only await it. Why should one organise Communist Parties to prepare the victory of communism? No one founds parties, they say, to bring about spring and summer.

Modern revisionists speak of the "gradual conversion" of capitalism into socialism, counting on an "automatic collapse" of capitalism, i.e., a collapse which will take place apart from the revolutionary activity of the people.

Such a vulgar, fatalistic conception has nothing in common with Marxism. The latter recognises the necessity of the victory of socialism and communism, but not in the sense that it takes place automatically.

The point is that the necessity of natural phenomena is essentially different from that of social phenomena. In social development necessity operates in a different way from that seen in the alternation of day and night or the advent of spring and summer. These phenomena occur without man's participation.

In society, everything that exists is the work of man, the result of his labour and revolutionary activity.

"Does it not follow then," you may ask, "that social necessity depends on people and is created by people?" No. Social phenomena arise apart from the will and desire of people, on the basis of the laws of the development of material production. Social necessity is just as objective as the necessity in nature. But, as we have already seen, there is an essential difference. Necessity in nature does not presuppose the activity of people. But in social life the activity of people is one of the conditions without which necessity is not realised, does not manifest itself.

Is it possible, for example, to avoid war without the mass of the people fighting actively against it? Of course not. If the peace forces remain idle, the dark forces of war inevitably become more active. Peaceful coexistence will be threatened. For this reason, it would depend on the peoples themselves, on their resolution and activity, whether there would be peace on earth or whether mankind would be plunged into the catastrophe of a new world war.

To admit the fatal inevitability of war would reduce the activity of the people in the peace struggle and demoralise the peace forces. On the other hand, recognition that war is not fatally inevitable helps to swell the ranks of the peace supporters, and puts heart into the fighters for peace.

Thus, historic necessity not only does not exclude an active attitude to events taking place in the world but, on the contrary, presupposes it. Marxism attaches great importance to the free, dynamic activity of people. This it termed the *subjective factor,* meaning the forces and causes depending on the subject, on people, their knowledge, dynamic activity and ability to streamline affairs.

Perhaps the most characteristic feature of the life of Soviet people, who are building communist society, is their conscious, purposeful activity.

But if people, consciously following a plan worked out in advance, create the material and technical basis of communism, does this not mean that the building of communism is no longer determined by objective conditions, by necessity, by laws? No, it does not.

The building of communism in the Soviet Union is strictly in accordance with the laws of social development. This is a historically necessary process. The extremely important thesis of the priority of objective conditions in social development fully applies to the period of full-scale communist construction.

What then is the role of people's free, dynamic activity if objective conditions are of decisive significance?

In the Programme of the C.P.S.U. the possibility of building communism in the U.S.S.R. is economically substantiated on the strength of the laws of social development. The historical period involved in the construction of the material and technical basis of communism is calculated on the basis of the material resources of the country, of the possibilities

inherent in socialist industry and agriculture. However, the realisation of plans envisaged by the Programme will not come about of themselves, automatically. They require the enthusiastic, genuinely creative labour of millions of working people.

The Programme of the C.P.S.U. proceeds from the Marxist conception of the relation between objective conditions and the subjective factor, from the highly important thesis of Marxist theory that communist society, unlike all preceding societies, does not develop spontaneously, but as the result of the conscious and purposeful activity of the common people, guided by the Marxist-Leninist party. The role of the subjective factor, of the free, dynamic activity of the nation, is considerably enhanced in the period of the full-scale building of communism. It is of decisive significance for the success of this great cause. People's dynamic activity, however, is based on objective conditions and grows out of them.

Communism establishes freedom on Earth

The concept of freedom is distorted by bourgeois philosophers and sociologists. They reduce the entire problem to the attainment of an "ideal freedom of the spirit". You may be a slave and in fetters, they argue, but if you consider yourself spiritually unhampered by your conditions, you are free.

In bourgeois society, all men are supposed to be free. No one compels the worker to work and the capitalist to offer him work. The worker can go to the capitalist or refrain from doing so. He can do as he will. On these grounds bourgeois propagandists declare that with the establishment of capitalism the question of freedom was solved. The ideologists of imperialism have even invented a special name for the capitalist countries—the "free world". But let us see whether this "free world" is actually free.

For a man to be free he must be master also over the conditions of social life. Can this be realised in a capitalist or any other exploiting society?

In a class society, the answer to the question whether a man is free or not depends primarily on the conditions under which he lives, on the place he occupies in society. History has shown that in any society consisting of antagonistic classes the freedom of one class means the slavery of others. Lenin stressed that freedom is a class privilege. Any attempt

to look for freedom divorced from economic conditions, from an analysis of the class nature of the given socio-economic system, is either deception or an illusion.

Freedom is possessed by those who own the means of production. There is no freedom for the working people where there is private ownership of the means of production and its aftermath—the exploitation of man by man, because under these conditions there is no real objective basis for freedom of the people. In such a case freedom has only a formal meaning for the people, and they cannot make use of it. Only the exploiters enjoy freedom. In his book, *The Philosophy of Freedom,* the contemporary Japanese philosopher Janagida Kenjuro wrote: "Freedom simply as such, like freedom as an idea devoid of a material basis, is like a flower without roots. However beautiful, it is certain very soon to fade and wither." As Lenin taught, in a society based on the power of money, where the mass of the working people live in poverty alongside a handful of rich parasites, there cannot be any real freedom.

Monopoly capital, the Programme of the C.P.S.U. states, ever more clearly reveals its reactionary, anti-democratic nature. It cannot reconcile itself even to the previous limited bourgeois-democratic liberties. The police baton and the bullet play an increasing part in the "arguments" of bourgeois democracy. Such is their "free world", a society with no true freedom and no democracy, a society based on social and national oppression and inequality, on the exploitation of man by man, on the flouting of human dignity and honour.

Thus, *there is not and cannot be true freedom for the working people in capitalist society.* The "free, capitalist world" is an invention of bourgeois propagandists.

The proletariat, the working peasants and all working people acquire real freedom only by winning social freedom and building socialist society, for man feels himself free only when he possesses the material basis for realising his aims and aspirations. Socialist society gives the working people this basis. It was for this reason that Engels declared that socialism was a leap from the kingdom of necessity into the kingdom of freedom. Only under socialism can people control the course of social development and convert blind necessity into freedom.

The experience of building socialism in the Soviet Union

and other countries has confirmed Engels's conclusion. Under socialism man is free from fear of unemployment, uncertainty as to the morrow, and exploitation. This has already been won by the socialist nations. But man's advance along the road of freedom does not end here. *The building of communist society is a higher stage in man's liberation from the elementary forces of nature. All the conditions will be created for free creative labour, for the development of all human capacities and talents.* Thereby, as the Programme of the C.P.S.U. points out, the last barrier on mankind's path to the true kingdom of freedom will be removed. This means that communism establishes true freedom in the world. It does not follow, of course, that man is freed from all obligations in relation to society and the members of the collective, or from social rules of behaviour. Freedom as the recognition of necessity is bound up with discipline and presupposes it.

Freedom and discipline

The Communist Party educates its members in the spirit of strict observation of Party and labour discipline. Communist organisation of labour, Lenin pointed out, rests on the free and conscious discipline of the working people themselves, and this becomes increasingly the case as it develops. "Communist production," the Programme of the C.P.S.U. states, "demands high standards of organisation, precision and discipline, which are ensured, not by compulsion, but through an understanding of public duty, and are determined by the whole pattern of life in communist society."*

Lenin insistently demanded the observation of Party discipline. Unity of will and iron discipline are the cement that binds the Party into a single whole and gives it invincible strength. As a matter of fact, the Communist Party always expresses the laws and tendencies of historical development. Its programme reflects the material needs of society, the aspirations of the nation. The Rules of the C.P.S.U. lay down how every Communist should act in order that this Programme should be successfully implemented.

Hence, guided by these documents, the Party members consciously bend their efforts on the basis of Party and state discipline, fully recognising that the Party's policy wholly

* *The Road to Communism*, p. 511.

accords with the interests of the people and the laws of social development. That is why a Communist acts freely. For a Communist, discipline is the reflection of that historical necessity without the recognition of which there is no true freedom.

Thus, *true freedom is not only compatible with discipline but is based on it. Socialist society is strong owing to the unity of class interests, and the unity of action and will, which gives rise to the conscious discipline of its members. On this basis true freedom of personality grows and increases under socialism.*

Freedom of personality. Genuine and pseudo-humanism

It was stated above that the problem of freedom in its socio-political aspect includes the question as to what kind of social system actually creates conditions for a normal and happy life for working people; in other words, what kind of society can really put into effect the principle "Everything for man!" This is one of the most important questions, for in the final analysis the outcome of the peaceful competition of the two systems will depend on which of them can most completely satisfy man's material and spiritual requirements.

Bourgeois leaders and their ideological champions assert that this society will be the vaunted "free world" of the West. They assume the role of "true humanists" and vow their absolute love of mankind. Some of them, the Right-wing Socialists, for example, say that they want to create "humanist socialism". Others paint capitalism in new colours as "economic humanism". The churchmen link humanism with belief in God. They declare that man is the crown of divine creation and that all nature has been created by God for man. This is intended to evoke good feelings towards God and thankfulness to the Church for its "humanism" and "love of mankind".

Such views of humanism aim at preventing the working people from understanding the essentially anti-human nature of the capitalist system, in which everything is subordinated not to the interests of the working people but to their enslavement.

The adherents of "economic humanism" try to prove that the aim of production in capitalist countries is not the extraction of profit but the satisfaction of people's needs. This is,

however, a crude deception. The economy in capitalist countries does not at all aim at serving mankind. Its sole aim and driving force is enrichment. The talk about "economic humanism" is needed by the exploiters in order to gloss over the contradictions which rend the exploiting society. They preach all-embracing love for people of both classes—exploiters and exploited. And they make out such love to be a typical feature of "absolute humanism".

Hence, the so-called humanist theories of bourgeois ideologists are wholly fallacious. The humanism they preach is intended to gloss over the underprivileged position of the working people in the capitalist countries.

What is the essence of true humanism?

Humanism is above all love for the working people, the broad mass of the people, and struggle for their happiness, for making their life as rich and fruitful as possible. This can never be accomplished in a society based on exploitation and personal enrichment. As we have already seen, *true humanism is possible only through the victory of socialism and communism. Hence, there is an organic connection between communism and true humanism.* How is this connection expressed?

Marxism-Leninism proceeds from the necessity to create the material conditions for the harmonious development of the individual. The latter can only be free when society is free from exploitation and uncertainty as to the morrow. Society cannot become free without freeing every person in it. Thus the free development of the individual depends on real, objective conditions that are created under socialism and communism. As the Programme of the C.P.S.U. points out: "Soviet society ensures the real liberty of the individual. The highest manifestation of this liberty is man's emancipation from exploitation. . . ."*

Communism is a system in which the capacities, talents and finest moral qualities of the free man can develop and come to full flower. Since communist society has inscribed on its banner "From each according to his ability, to each according to his needs", it fully embodies the watchword of the Communist Party: "Everything for the sake of man, everything for the benefit of man."

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* *The Road to Communism*, p. 460.

Love of man is the characteristic feature of communism. But this is not Christian, sterile, abstract "love", which is so often limited to mere sermons and benevolent wishes that suit bourgeois interests. It is a humanism that calls to action, to the accomplishment of the practical tasks of communist construction, that make possible also the realisation of the great watchword: "Everything for man!"

Communism is the highest peak in the development of mankind and the individual.

It follows that *communist society creates all the conditions for the development of the individual.* Marxism, which has elaborated the theory and practice of communist construction, is true humanism—the humanism of our time. It brings with it, too, true freedom for the working people.

We have seen that the achievement of true liberty can only become a reality when definite conditions exist that are of decisive significance for every process and phenomenon. Connected with this are the categories of possibility and actuality.

Possibility and Actuality

What are possibility and actuality?

At some time you have had to decide whether some idea, aim or aspiration was possible or not. We usually describe as possible something that can be achieved or can happen.

After the theory of rocketry had been created by Tsiolkovsky, and after the invention of jet-propelled engines, flights to the Moon became a possibility. When, however, a Soviet rocket brought a pennant to the Moon, the possibility of a flight to the Moon became converted before our eyes from a possibility into an actuality.

Thus, *possibility is something that has not yet been accomplished, which does not yet exist, but has every ground for becoming real, actual. Actuality, however, is something that has already been realised, that exists in actual fact, and has come into being through objective laws, natural necessity.*

Possibility and actuality are opposites. But are they connected?

Metaphysicians deny all connection between them, they divorce one from the other. Some say: possibility does not exist. If a phenomenon does not yet exist, it means that there are no grounds or conditions for its appearance. If a phenomenon comes into being it means that the conditions producing it have only just appeared, and possibilities that existed previously play no part here.

Other metaphysicians assert that everything is possible. Nothing is impossible. God is all-powerful, he can dry up the oceans or set them on fire, or halt the sun in its course —all miracles are possible for him. Man, too, can do anything if he is a "powerful personality". For such a one the possible is equivalent to the actual.

Both these standpoints are deeply erroneous. Those who deny altogether the existence of possibility and those who take possibility for actuality are both wrong.

What is the root of such errors? It lies in the questions of possibility and actuality being interpreted in a way that is completely divorced from what happens in life. *What can be and what cannot be are determined, not by people's desires, but by the laws, conditions and causes which exist in life.* Consider, for instance, the following example. America is a country where opportunities are equal for all, we are assured by U.S. bourgeois propagandists. Everyone has an "equal chance" of becoming rich. But how far this is from the truth!

In the capitalist countries there are causes that result in the rich growing richer and the poor becoming worse off. Consequently, there are no real possibilities for the working people to get on in the world.

Let us take another example. Is there any possibility for the miracles of which the clergy speak to be accomplished? A miracle is a phenomenon that contradicts the laws of nature and is inexplicable by these laws. But we have already seen that there is not and cannot be any phenomenon or event in the world that arises in defiance of the laws of nature and society. Hence to believe in miracles is to believe in the impossible.

Thus only that is a possibility which is in accord with the laws of nature and society. Actuality, too, is in accord with the laws of nature and society. Both categories are objective, for they reflect properties of things and phenomena that are apart from and independent of our consciousness.

You may say: "On the basis of this definition, a flight to the Moon was possible a thousand years ago, because even then it did not contradict the laws of nature. But we know that even thirty years ago such a flight was considered an unrealisable fantasy. How is this to be explained?" The point is that there are different kinds of possibility.

Formal (abstract) and real possibilities

If a thousand years ago someone had said that space flights were possible, his assertion would have been thought untrue. Now everyone knows that such flights are possible. Why is it that what is essentially the same possibility should on one occasion seem to be an unrealisable fantasy and on a second occasion the preliminary to its realisation?

The point is that a thousand years ago the concrete conditions for space flights did not exist. Of course, even at that time, the possibility of space flights could be substantiated on the basis of the laws of nature. But this would have only a very remote relation to actuality, to the realisation of this possibility, for the conditions did not yet exist for such realisation. *Possibility unconnected with concrete conditions essential for its realisation is called abstract or formal possibility.*

The concrete conditions that make space flights possible have now been created: the science of rocket flight has been elaborated, powerful rocket equipment has been constructed, cosmonauts capable of using it have been trained. *A possibility like this which is inseparably connected with concrete conditions owing to which it can be realised, is called a real possibility.*

In practical activities one must be guided by real possibilities. Formal possibilities are of value when they assist in revealing real possibilities, as occurs, for example, in some science fiction.

The role of objective and subjective conditions

We have seen that a particular possibility arises only when the appropriate conditions have matured. But is this sufficient for converting possibility into actuality? It is not. In the life of society everything turns on the people who by their persistent labour have yet to convert possibility into actuality.

In social development, the conversion of possibility into

actuality requires, firstly, objective conditions and, secondly, the activity of people who create pertinent subjective conditions. This activity is the *subjective factor,* which the Communist Party has always regarded as extremely important. When the conditions are ripe for necessary and decisive action, every effort must be exerted to convert possibility into actuality. Widely known are Lenin's words on the eve of the October Revolution to the effect that it was necessary to act swiftly and decisively without waiting even for a minute because "delay is fatal". This meant that the objective conditions for the seizure of power by the proletariat were in existence and so everything depended on the ability to make use of them, on the organisation and fighting readiness of the working people.

History records examples where indecision and mistakes committed during a revolution led to its defeat. Such was the experience of the Paris Commune, of the revolutionary workers' government set up by Paris workers after the uprising in March 1871.

What does the concept of the subjective factor include? *It includes all political and organisational work of Party workers, the dynamic, creative activity of people.* When the plan has been drawn up, and reserves and possibilities ascertained, organising work is of prime importance. The Central Committee of the Communist Party *attaches prime importance to the Party's organising work as the decisive link in the realisation of existing opportunities.* Only on this basis is the practical implementation of the Communist Party's policy possible.

Lenin taught that it is not enough to put forward correct slogans and formulate tasks skilfully, it is necessary that the common people should be ready for the struggle to accomplish these tasks and to organise the people for the practical work of carrying them out. This implies creating not only the objective but the subjective conditions for realising plans and utilising opportunities. Therefore, the Programme of the C.P.S.U. emphasises that "the victory of communism depends on people, and communism is built for people. Every Soviet man brings the triumph of communism nearer by his labour".* The possibility of building communist society is

* *The Road to Communism,* p. 589.

converted into actuality by the daily labour of the Soviet people and its vanguard—the Communist Party.

Only a scientific approach enables the subjective factor to be fully used for realising possibilities. Profound knowledge based on Marxist-Leninist theory assists in correctly determining possibilities and ways of advance, and in most effectively carrying them out in practice. If people's activities are not scientifically based, the objective possibilities will remain hidden, which always does great harm.

The subjective factor is important also in the following respect. In social life possibilities can be of a *progressive* or of a *reactionary* nature. For example, the progressive possibility of preventing war in our time is confronted by the reactionary possibility of war being unleashed by the forces of reaction. Which of these possibilities will prevail depends on the activity of the people at large, of the progressive forces, of all fighters for peace. Their task is to create the conditions for the victory of the progressive possibility.

The activity of the Communist Party and the Soviet people, resting on a strictly scientific basis, has expanded the boundaries of human possibility. This means that possibilities formerly latent are now being made use of with maximum efficiency.

Realised possibilities, which have become actuality, really existing processes and phenomena, have a definite content and corresponding form.

Content and Form

What is content and form? Every object, phenomenon or process has its own definite *qualitative features or essential traits. Their sum total forms the content of the given object.*

The basic content of our epoch is the transition from capitalism to socialism, begun by the Great October Revolution. Consequently, this determines the essence or character of the present stage in world history.

If we take a work of art, its content will be the main theme which reveals the substance of the social relations expressed in the work. The content of a lecture is the chief ideas expressed, what it gives to the audience, how it influences them.

Can content exist by itself? Let us investigate.

Imagine you are standing on a building site with all the parts needed to build a house before you. You certainly cannot say you have a house in front of you. There will only be a house when all parts are put together and given the corresponding form.

As you see, the content must be given a form. It does not and cannot exist without a form. Every object or phenomenon therefore has a form as well as a content. *Form is the inner organisation, the structure of the content, making its existence possible.*

But does a book's contents alter if its form–binding, type, etc.,–alters? No. The fact is that forms differ in being internal or external. We have already mentioned the internal form. A book's binding, an object's colouring–is an external form in relation to the content.

The *external form* exerts no essential influence on the content, is not of decisive significance for it. The *internal form,* however, for example how the main idea is displayed in a book, or the relationship between the parts of a house, and their size, which gives it a definite appearance, directly affects the content. Here *the content itself has its form.*

Consequently, form and content exist in a unity. In any object or process they are always closely connected. The question arises: what is the role of each of these categories? Which is the leading, determining factor in this unity?

Content determines form

In the matter of studying, experience shows that the main thing is the content, whereas the form has to be determined correspondingly. Lectures, seminars, independent work–all these are forms which are decided on in accordance with what is being taught, the composition of the students and their degree of preparation, etc., that is to say, the content. This is always the case. Content determines form.

Lenin taught that when the Party has to face big new tasks it must work out such organisational forms, such rules and standards of its internal life, as would ensure the fulfilment of these tasks. So *the form of an object depends on its purpose, its content, which plays the determining role.*

The dependence of form on content does not mean that a given content can give rise to only a single form. This is well seen in examples from social life, where the form is evoked

by the content, which is always bound up with concrete historical conditions. Hence, there cannot be only a single, rigid form.

A socialist revolution, as the content of a social upheaval, occurs in various forms. It can be peaceful or non-peaceful. Parliament may be used during its course, but it should be borne in mind that in such a case it is not a matter of using the bourgeois parliament, but of the parliamentary form of rule which is put at the service of the people and given a new content.

You may ask: "If form is subordinate to content, does not that mean that it plays no part and can be neglected?"

Active role of form

No, the form must not be neglected. Although it is dependent on the content, it actively influences the latter. Consider the following example: a lecturer delivers a lecture on the international situation. He has collected material on current, burning questions; he has a solid basis of facts. But the form of his exposition is unclear and uninteresting, and his language "wooden". Does such a form affect the content? Undoubtedly, it does; it is difficult for the content to reach the audience, the aim of the lecturer is not achieved. Another lecturer may give the same facts in a lively, interesting and clear fashion. The result then is different; the audience grasps them very well, the lecturer's aim is achieved.

It follows that *not only does the content act on the form, but the form retroacts on the content.* Moreover, two kinds of this reaction are possible. *If the form corresponds to the content, it assists its development,* as in the second case mentioned above. *If, however, the form does not correspond to the content, it hinders its development,* as in our first case above. But its role is always active, it reacts on the content.

From the above examples it is evident that in practical activities one must not ascribe a decisive role only to the content, ignoring the active character of the form. One must take into account also the reciprocal action of the form. Lectures, for instance, must be not only good in content but also vivid and interesting in form.

The Communist Party, which attaches prime importance to the content of its activities, never forgets to ensure the appropriate forms for their manifestation. For example, effective control over the fulfilment of the decisions of the Party

and Government is only possible when the forms of control have been thought out and a definite system of control devised. That is why commissions for implementing control over administration were set up in the primary Party bodies of industrial and trading enterprises. Thus, *carefully thought out forms of organisation assist the development of the content.* "The Party will continuously improve the forms and methods of its work," the Programme of the C.P.S.U. states, "so that its leadership of the masses, of the building of the material and technical basis of communism, of the development of society's spiritual life will keep pace with the growing requirements of the epoch of communist construction."*

That the form assists the development of the content is clear, but the reader may ask: "How can the form hinder this development in view of the statement that the form is dependent on the content and exists in a unity with it?"

Contradiction between form and content

This is easily understood if it is borne in mind that everything is in process of development. Thus the content never remains permanently at one level. It develops and the form develops as well. But the latter is more stable, less flexible. It lags behind the content. Form and content are opposites. When this opposition develops into a conflict between the form and the content, it has to be resolved.

A new invention is usually born in an old form. Thus the first automobile closely copied the horse carriage. The first sewing machine had "mechanical hands". But the time comes when the old form becomes a brake on the development of the new properties of the machine, on the development of its new content. The old form of the automobile was a hindrance to increasing its speed; it had to become streamlined.

The antagonism between form and content does not arise all at once; it develops gradually. At first only small differences arise between them. It is clear how this happens: the developing content acquires new features, but the form cannot be changed from day to day, the old form remains for a certain time. But the differences gradually accumulate and

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* *The Road to Communism*, p. 584.

at a definite stage they develop into an opposition between form and content. Contradictions, conflict, antagonism, arise between them. These are resolved differently in different spheres of social life. The conflict between form and content in social development under capitalism is resolved by a proletarian revolution.

In socialist society, these contradictions are resolved by the gradual transformation of the old forms, carried out through the initiative of the Communist Party. But whatever the sphere in which these contradictions make their appearance, they are everywhere resolved in such a way that, as Lenin says, there is "a struggle of content with form and conversely. The throwing off of the form, the transformation of the content."*

An important conclusion follows from the above. *In practical activities, on no account must one ever cling to obsolete forms of social life, one must boldly break with them, displaying an innovatory spirit.*

Examples are to be met with at every step. Take, for example, life in the Soviet countryside. Under capitalism the peasants were forced to live in poverty, in broken-down hovels. With the collectivisation of agriculture, the peasants were reborn. The content of their lives was radically altered. This could not but affect the external appearance of the villages. Take, for example, the Bessarabian village Kopanka, situated by the Dniester. Before 1940, when Bessarabia joined the family of Soviet peoples, it was a poverty-stricken, downtrodden village. A new life came to it with the organisation of collective farms. This new content speedily gave rise to a new form, a new appearance of the countryside. Two-storey houses of an urban type have been built, there is a boarding school and the roads have been asphalted.

Many such examples are to be found in the territories and republics of the U.S.S.R. One cannot say, however, that already the old form has been discarded everywhere, that it has everywhere been brought into accord with the new content of collective-farm life. Here and there in the countryside there is still a lag as regards social and cultural services. In the period of full-scale communist construction this

* Lenin, *Collected Works*, Vol. 38, p. 222.

contradiction between the new content of collective-farm life and the old form will gradually be eliminated. It is not accidental that the Programme of the C.P.S.U. points out that as the country advances towards communism "peasant houses of the old type will, in the main, give place to new modern dwellings, or—wherever possible—they will be rebuilt and appropriately improved".*

Thus the contradiction between the old form and the new content is being resolved on the strength of a correct understanding of the interrelation between them.

Essence and Appearance

What are essence and appearance?

Science and practical life show us that the things and processes occurring in the world have two aspects: an *inner* aspect that is hidden from us, and an *external* one that is evident to our perception. When we come to know things through our sense organs we at first perceive merely some individual appearances of these things, only the external connection between them. Thus we become acquainted with what lies on the surface, what most of all strikes the eye, and get to know only the external connection between phenomena. In other words, we are confronted at the outset by a world of appearances.

But neither science nor human practice can be restricted to merely perceiving and describing individual phenomena, facts and events; they aim at finding the essential, permanent laws of phenomena, their causal dependence, their *inner connection.* The laws of nature and society cannot be directly perceived, they do not coincide with appearances. To discover the law-governed development of processes means to get to know their inner nature, that is to say, to penetrate into that which connects diverse phenomena into a single whole, that which is the basic, chief thing in them.

The following examples will help to explain this.

There are a multitude of living organisms in the world, ranging from the simplest forms of life to man. Each one is different from the others, but they all have a common basis

* *The Road to Communism,* pp. 540-41.

that unites them into a single whole. Engels defined this essence by pointing out that they are all different forms of the existence of protein bodies.

Lying behind the diversity of appearances is their *essence*, i.e., their inner connection, their basis, the laws of their development. Lenin therefore noted that "*law* and *essence* are concepts of the same kind (of the same order) or rather, of the same degree, expressing the deepening of man's knowledge of phenomena, the world, etc."*

The expression "to penetrate into the essence" means nothing but the need to understand the basis of objects, the laws of processes, the inner organic connection between phenomena, to penetrate into the features that are most characteristic of the whole of the given class of phenomena, to penetrate into the laws of their development.

It is clear then that *essence expresses the inner connection of the objective world; it is the basis of the diversity of phenomena. Appearance, however, is the externalisation of essence, the external form of its manifestation.* That is why essence is not something that exists prior to appearance and independent of it. Essence and appearance reflect different aspects of one and the same reality, essence reflects its inner and basic aspects, whereas appearance reflects its external and immediate aspects.

Connection and contradiction between essence and appearance

What is the reciprocal relation between essence and appearance? It should be first of all that they form an indissoluble unity. "The essence appears. The appearance is essential," Lenin points out.** There is no impassable boundary between the inner content of a man and its external manifestation in acts and behaviour. Hence it is said: "A man is judged by his deeds." They reveal his inner content, his essence. The same thing holds good of social groups, classes and political parties.

Every appearance contains a revelation of essence, although not completely, but, as Lenin said, "in *one* of its determinations, in one of its aspects, in one of its moments".*** The great attention paid by the Soviet Communist

* Lenin, *Collected Works*, Vol. 38, p. 152.
** *Ibid.*, p. 253.
*** *Ibid.*, p. 133.

Party to the well-being and health of the working people does not make up the entire essence of the socialist system, but characterises one aspect of it–that of the Communist Party's care for man.

The unity of essence and appearance must not be taken to imply that they directly coincide. "If the outward appearance and the essence of things directly coincided," Marx pointed out, "all science would be superfluous."* The superficial appearance would reflect everything, the laws of the development of nature and society would be evident at a glance. But this is not the case: to discover the essence requires the intensive, complex labour of scientists, engineers, agronomists and millions of people. It requires scientific analysis based on practice, as everyone can prove from personal experience. Very often the appearance, the external aspect of events, not only does not coincide with the essence but even distorts it.

The Sun, for example, seems to us to go round the Earth, which seems to be at rest. This appearance, however, contradicts the essence, which was discovered by the Polish astronomer Copernicus.

In social life the essence is often deliberately distorted or masked by obsolete reactionary forces. "Be ye therefore wise as serpents and harmless as doves," preachers tell believers. What one should say in such cases is: "Do not trust the external, apparent aspect of preachings, penetrate into their essence, otherwise you will be duped!" Or consider the exploitation of the working class under capitalism. It is also concealed, masked. Superficially, the relations between workers and capitalists seem to be those of free and equal commodity owners. It can even be shown that what takes place between worker and capitalist is an ordinary sale and purchase which consists in the worker selling his labour and the capitalist paying the full price for it.

It required the genius of Marx to reveal the essence of exploitation as the basis of the mutual relations of a proletarian and a bourgeois. Marx's *Capital* is a remarkable example of penetration into the profoundest essence of the capitalist mode of production. Marx wrote: "We therefore take leave for a time of this noisy sphere, where everything takes place

* Marx, *Capital*, Vol. III, p. 797.

on the surface and in view of all men, and follow them both into the hidden abode of production, on whose threshold there stares us in the face 'No admittance except on business.' Here we shall see, not only how capital produces, but how capital is produced. We shall at last force the secret of profit making."*

Marx proved that the capitalist does not pay for the whole labour of the worker, but only for part of it. The unpaid part of labour constitutes surplus value, which is appropriated by the capitalist. The bourgeois exploits the worker. That is why in capitalist society the poverty of the mass of the people, hunger and unemployment are concentrated at one pole, while at the other are the wealth and luxury of parasitic capitalists.

It is clear that during scientific investigation we penetrate into the internal, the essence, through the external, the appearance. That is how Marxist philosophy solves the problem of the reciprocal connection of essence and appearance. The idealist view runs counter to this solution.

The idealists divorce essence and appearance from each other. A typical example is the philosophy of Kant. He divided reality into the world of "appearance" and the world of "essence". This latter world, or "things-in-themselves", as he called it, is inaccessible to us. It lies beyond appearances.

Hegel tackled the relation between essence and appearance somewhat differently. He criticised Kant for separating essence and appearance by an unbridgeable gulf. Hegel saw the connection between essence and appearance. But for him essence was not the inner content of the objective world, but "the absolute idea" that is manifested in the objective world. It is not the essence of things that is revealed through appearance but the absolute idea.

Modern adherents to the religious-idealist philosophy of neo-Thomism treat essence and appearance in accordance with religious dogmas, which hold that an eternal and immutable divine essence lies at the basis of all that exists. Every law, every essence that is discovered, is God's will in operation. Individual things are regarded as the reflection of the divine essence.

Such idealist and religious treatment of the problem of

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* Marx, *Capital*, Vol. I, p. 176.

essence and appearance distorts the real connections existing in the world. Owing to it people are unable to penetrate into the essence of events and are helpless in the face of them.

Significance of the categories essence and appearance

The dialectical-materialist theory of essence and appearance is of great theoretical and practical value. Only one who knows how to penetrate into the essence of phenomena and events can cope with the tasks confronting him. We need such knowledge in every field, great or small.

Today, when a world socialist system has been formed, when the colonial peoples have risen against imperialism, the further course and prospects of development can only be understood by means of a profound analysis of the essential character of our era. The strategy and tactics of the Communists' struggle for peace, democracy and socialism are inseparably connected with the question of the character of this era. Thus knowledge of the essence of the historical process becomes a guide to action.

In penetrating into the essence of phenomena, one must always take into account the concrete historical conditions in which it is manifested. Thus the essence of imperialism, as Lenin pointed out, is invariably connected with wars, with a struggle for the division and redivision of the world, for the enslavement of nations. This is still the case today. Under modern conditions, however, the imperialists' opportunities for unleashing a new world war are considerably restricted, for the alignment of forces is now in favour of peace and democracy. The Communist Party and Soviet Government take this into account in aiming at the peaceful coexistence of two systems. Hence, it is impossible to limit oneself, as the dogmatists do, to repeating general formulas about the "essence of imperialism", without taking into account the conditions in which it is manifested. Here, too, dogmatism does great harm. It divorces essence from the actual conditions in which it is manifested, regarding it as an abstraction unconnected with reality.

We have examined the main laws and categories of materialist dialectics. The question that now arises is how science obtains knowledge of these connections, relations and laws. This will be dealt with in the next talk.

HOW WE OBTAIN KNOWLEDGE OF THE SURROUNDING WORLD

Denying the possibility of knowing the world

Great is the power of knowledge. Man, armed with knowledge, is invincible. But is knowledge accessible to us? You may object that the question cannot be raised in this way. If we did not know what was happening in the world, we could not live and work in it. It is not only that such creations of human genius as sputniks, space rockets, atomic energy, would be out of our reach, without knowledge it would appear impossible to carry out the simplest matter.

Nevertheless there are people who assert that man cannot obtain a true idea of the world, that is to say, he cannot know it. Let us examine how this came about.

Knowledge is light, according to an old popular saying. But not all people love the light. This is because seeing the world in the powerful light of human reason means seeing a great deal in it, knowing a great deal about it and being able to do a great deal in it.

It is just this that is feared by all kinds of purveyors of darkness, because when man has been freed from social, political and all other slavery, and has become the master, he first of all overthrows the overlords and enslavers, whether heavenly or terrestrial. Precisely on this account religion took up arms against the man who stretched out his hand to the "tree of knowledge". Religion invented the legend that knowledge is for God alone, that it is inaccessible to people and that it is a "mortal sin" to try and cross this threshold, the "frontier of knowledge".

"This is a great mystery; it is not given to ordinary mortals to comprehend the divine wisdom in its innermost mys-

tery," the clergy tell believers in their sermons. What then is there left to man? "To humble his reason, to believe and to pray," is the answer of religion. Down with reason, light and knowledge!–that is the meaning of such assertions. "The ways of the Lord are inscrutable" and hidden from us.

In this matter the churchmen are supported by some idealist philosophers. They assert that the world is unknowable. They are called agnostics.*

The most notable exponents of agnosticism were Hume and Kant. Kant, for example, maintained that the things in the world are hidden from us, being, as it were, enclosed in a shell, and that it is impossible to know their inner content. Only their external form is accessible to us. Extensive advocacy of agnosticism can be found in modern bourgeois philosophy. The West German philosopher Petersdorf, for example, asserts that without the revelation of the great truths of religion, without "Christian mysteries", our weak reason would be helpless before the ultimate riddles of the universe.

What arguments do the agnostics put forward in support of their views, and are they valid? We know that the world can be perceived only by means of the sense organs–sight, hearing, touch, etc. But these, say the agnostics, are very unreliable witnesses. Our sense organs often deceive us. If you look at a pencil, for example, part of which is immersed in water, it would seem to be bent. In view of such things it is impossible to trust our sense organs, say the agnostics. Is this true?

Listening to the agnostics, one might think that the only thing man can do is to gaze helplessly at the objects surrounding him. But, in fact, man's role in the world is not that of a spectator but that of a doer, a creator. *Through labour and practical activity he has all that is required to make the evidence of the sense organs more precise, to penetrate into the essence of things, into the depths of the phenomena under study.* In our example, he has only to withdraw the pencil from the water to verify that it is not bent.

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* Lenin defined this philosophical trend as follows: "Agnostic is a Greek word: *a* in Greek means *no, gnosis knowledge.* The agnostic says: *I do not know* if there is an objective reality which is reflected, imaged by our sensations; I declare there is no way of knowing this" (Lenin, *Collected Works,* Vol. 14, p. 128).

You see, therefore, that the question whether the world can be known is decided by practice, by life. *Through labour and productive activity man penetrates into the essence of the surrounding world and gets to know it.*

How cognition is achieved

Suppose you have to study the work of a factory. How would you begin? You would begin, of course, by collecting facts, such as the number of workers and the up-to-dateness of its equipment, etc. Only then could definite conclusions be drawn as to the life of the factory.

That is how people act in relation to any matter. The work of discovering, cognising, the laws of nature begins with the *accumulation of facts.* This is achieved either by simple observation or by experiment, but always by means of the *sense organs.* This is the first stage of cognition—*sensuous knowledge* or *living perception.*

After a sufficient number of facts have been acquired, our reason analyses them, compares and contrasts them, and arrives at definite conclusions. This is the second stage of cognition—*logical cognition,* or *abstract thought.* Both stages of cognition, however, are based on practical activity. We take facts from practice, from actual life, in order to analyse them. And conversely, the conclusions we draw from these facts are necessary for life, for practice. We need them in order to improve, for example, the work of the factory we have been checking, or to raise the yields of a crop that we have been studying.

Thus, *the process of cognition consists of sensuous and logical cognition, operating on the basis of practice.* "From living perception to abstract thought *and from this to practice,*—such is the dialectical path of the cognition of *truth,* of the cognition of objective reality,"* wrote Lenin.

Sensuous perception is the initial stage of cognition

The history of science records the following case; it is described by the physiologist Sechenov from the words of the physician Botkin. A patient was admitted into the clinic with all his main sense organs paralysed. He could not see, hear, smell or taste. All that remained to him was the sensitivity of the skin of one hand. That was his sole means of contact with the outer world. But how meagre this knowledge was! The patient was

* Lenin, *Collected Works,* Vol. 38, p. 171.

almost all the time oblivious to the outer world. What does this indicate? It shows that the sense organs are the channels through which knowledge of the surrounding world penetrates to human consciousness. *The action of the external world on the sense organs evokes sensations.* We cannot obtain knowledge of the world surrounding us except through sensation, Lenin pointed out.

"But," you may say, "it is well known that the loss of one or even two sense organs does not appreciably affect people's mental activity. In that case, is it not an exaggeration to conclude that it is impossible to know anything of the world except through the sense organs?" Correct here is only the statement that the loss of one or two sense organs does not deprive a person of knowing what goes on in the world. Cases are even known where people deprived of sight, hearing or speech have not only learnt to write and read but have even proved to attain high mental development.

Where a person loses only one sense organ, its loss may be made up for by the others. But if he is deprived of all his sense organs he is powerless to make any study of reality. He cannot know anything of the world.

It is not enough, however, to recognise the great importance of sensations. It is necessary to understand their meaning as well, for there are philosophers (subjective idealists) who, when speaking of the role of sensations, consider that they can arise within a person independently of the action of the external world on our sense organs. They assert, for example, that an apple in itself has neither a yellow colour nor its characteristic form. Man imposes these on the apple, which is merely the sum of all his sensations.

Thus they reach the conclusion that things are a complex, a combination, of sensations. But in reality the reverse is the case. The apple with all its properties exists independently of us, and when it acts on our sense organs it evokes the corresponding sensations—colour, smell, taste, etc. Lenin pointed out that *sensation is the result of the action of objects of the external world on our sense organs.* Precisely for that reason it gives us true, correct knowledge of the world around us.

"But how can it be proved that sensations give correct knowledge of the world?" you may ask, recalling that the

agnostics assert just the opposite. It is proved primarily by our practical activity. If sensations did not give correct knowledge on the whole, man would not be able to make practical use of objects in the external world. In that case substances which our senses tell us are useful to the organism could prove harmful and vice versa.

Our eye, for example, as it were, photographs an object which we look at. If it moves, the image of a moving object appears on the retina. If it does not move, the image of a body at rest is produced. In each case the eye *reflects*, copies, what is taking place in the world. That holds good for all the sense organs. It follows that the agnostics are wrong in asserting that the sense organs are unreliable witnesses.

But what about the deception of the sense that undoubtedly occurs at times? This is what happens. If man perceived the world only through his sensations, he would in fact only know the external aspect of objects. And our senses do sometimes deceive us. Judging by our senses, the sun "rises and sets". But we know that this is an illusion. In the same way, we suppose a glass of water to be "clear as crystal". But in fact it contains millions of microbes. However, we are able by means of thought to control, verify and make more precise the indications of our sense organs. That is why Lenin criticised the agnostics for not going beyond sensations. By means of thought, man goes beyond sensations. This means that, while trusting sensations and using their indications, human reason penetrates into regions that sensations cannot reach.

Abstract thought is the highest stage of cognition

Near the Soviet town of Kursk an interesting natural phenomenon was observed: a compass needle behaved in an unusual way. On the basis of these facts scientists concluded that there must be large underground iron ore deposits in the area, causing "deviations" of the compass needle. Geological prospecting confirmed it. In a similar way, iron ore was discovered in Kustanai Region. It was observed that whenever a plane flew over this area of Kazakhstan the compass needle deviated from the true north-south position. "There must be iron ore here"—was the opinion of geologists.

Although this inference was based on the indications of the sense organs it was not made by the senses themselves.

The latter can perceive only what can directly be seen, heard, etc. The scientist, however, did not see the iron ore but an anomalous "behaviour" of the compass needle, i.e., what lay on the surface of phenomena. The iron ore lay deep underground.

The scientists had to make a great and comprehensive mental effort in order to draw the correct conclusion from these facts. Thus, *by means of thought man draws conclusions about the nature of the inner connections, i.e., about the laws governing the development of phenomena.* Whereas sensation connects man directly with the external world, thought reflects it *indirectly*. This means that deductions are drawn on the basis of indirect data. To find out, for example, whether a man can travel in a spaceship without endangering his life, experiments were first made with animals: the dogs Laika, Belka and Strelka were flown in rockets and spaceships. The data obtained enabled Soviet scientists to draw conclusions about the safety of human space flights. These conclusions were fully borne out by the Soviet cosmonauts.

Without facts there can be no conclusions. They are as vital to the scientist as the air he breathes, and they are given by sensations, by the sense organs. But one must not restrict oneself to gathering facts. The Russian scientist Pavlov wrote in a letter to Soviet young people: "Do not become archive collectors of facts. Try to penetrate the secret of their origin. Persistently seek the laws that govern them." This can only be done by abstract thought.

How are conclusions drawn from facts?

Let us suppose that it has become necessary to generalise the experience of the work done by college teachers. This involves bringing together the fragments of positive experience and drawing a *general* conclusion as to how the work should be organised to yield good results. For this purpose one must first become acquainted with the work of the teachers.

Here, as in every other matter, there are important, essential features and others that are unimportant, inessential. How the teachers prepare their lectures and what they do to make them interesting are essential features. But when they do so, whether during the day or at night, is inessential and depends on particular individual conditions.

What has to be generalised is, of course, not these individual peculiarities, but the essential, chief features; it is on them that the level of instruction depends. Thought turns away, abstracts, from what is inessential, i.e., it, as it were, takes no notice of it.

Separating the essential elements alone of the cognised phenomena is the characteristic feature of thought. It is in this way that concepts are formed. It is clear therefore that in thought *abstraction is closely bound up with generalisation.*

Thus, *abstraction is the process of withdrawing the inessential features of phenomena under study and of separating out in thought their essential features and peculiarities. The conclusion is the generalisation which contains in a concentrated form only what is important and typical.*

It will be clear now why every conclusion is of a general nature, it concerns a whole class of phenomena and not merely some of them. Such a general conclusion is reached owing to the generalising capacity of thought. This is due to the fact that thought brings together into a single whole the chief essential features drawn from the facts, creates concepts, general ideas and images, and draws conclusions of general significance for the whole class of phenomena. Thought carries out this operation by means of the special logical means known as *induction* and *deduction.* What are these?

Inductive conclusions are based on the study of particular facts. When the dog Laika returned from flight in a rocket, the scientifically important fact was obtained that a living being could safely return to Earth from the upper layers of the atmosphere. When Soviet scientists carried out the same experiment with rabbits, an additional fact was obtained. By bringing together a sufficient number of such facts, the scientists drew the conclusion: "Any living being, including man, can safely endure the conditions of cosmic flight." This conclusion was reached by generalising the individual facts. Without it the space flights of Soviet cosmonauts could not have taken place.

Thus, *induction or an inductive conclusion is the name given to the passage from individual or partial judgments to a general one.*

A conclusion can also be reached, but in a directly oppo-

site way. We know, for example, that obsolete equipment is of low economic efficiency. We know also that obsolete equipment has been installed in a particular factory. From this we can conclude that this equipment will be of low economic efficiency. Heré our thought has passed from a general conclusion to a particular case.

Previous experience has taught you that all outdated equipment is of poor economic efficiency. You conclude that this particular equipment is no exception. On the basis of general knowledge of a whole class of phenomena you draw a conclusion about a particular part of it. This is called a *deductive* conclusion. *A deductive conclusion or deduction is the passage of our thought from a general judgment to a less general or individual one.*

It is now easier to explain the nature of abstract thought. The word "abstraction" is derived from the Latin word meaning removal, withdrawal. Abstract thought, as it were, removes, withdraws, from concrete things.

Here a new important question arises: which gives greater knowledge–thought or sensation? This can be answered by considering the example given above. Who knows more of the working of a college: one who has attended only one lecture and knows the strong and weak aspects of this lecture alone, or one who has generalised, say, the work of the college's teachers for a whole year and knows everything of essential importance about their work? The one who knows more, of course, is the one who has penetrated more deeply into the essence of the work. But essence, as we know, does not lie on the surface of phenomena. Its cognition requires tremendous labour.

First of all, the facts must be carefully checked. If facts are collected haphazardly and are not checked it is impossible to arrive at the essence on their basis. Lenin constantly stressed that facts are "stubborn" things and only yield proof when carefully selected and thoroughly studied. If, however, facts are taken arbitrarily, they are, as he says, "merely a plaything or something still worse".*

We have reached the conclusion, therefore, that *the essence of phenomena become known on the basis of accumulated facts.* They must be carefully verified and in

* Lenin, *Collected Works,* Vol. 23, p. 216.

sufficient number. Conclusions from them must be carefully thought out.

From what has been said above about sensuous and rational knowledge it is evident that they form a unity and supplement each other.

Those who divorce sensuous from rational cognition

The senses provide the mind with appropriate data, facts. On their basis, the mind draws conclusions or makes generalisations. Without the senses there can be no work of the brain, of the mind. And without the regulatory function of the mind there cannot be any sensuous cognition. Thus, sensuous and rational cognition are two stages of a single, continuous process of cognition, which is based on practical activity. They must not be divorced from each other. Philosophers, however, made repeated attempts to do so. Some philosophers said that man obtains knowledge of the world only through reason, and they are therefore called *rationalists.*

Rationalism is contrasted to what is called *sensualism* or *empiricism* (from the latin "sensus"—feeling, and the Greek "empiria"—experience). As opposed to the rationalists, the philosophers of this trend consider that man's knowledge is acquired through the sense organs and sensuous experience, the reason providing nothing new compared with the senses.

The most important exponents of sensualism were the English philosopher John Locke (1632-1704), and the French philosophers Etienne Condillac (1715-1780) and Claude Helvétius. They were progressive philosophers—materialists—but their conception of cognition was one-sided; they regarded sensuous experience as the sole source of knowledge and underestimated the role of theoretical thought.

One must distinguish between *materialist empiricism,* which has been spoken of here, and *idealist empiricism,* of which the subjective idealist Berkeley was an exponent. He, too, considered that all knowledge depends on sensuous knowledge. But his conception of "experience" differed from that of the materialists. He identified perception of an object with the object itself. This means that things do not exist objectively but only in "experience", i.e., only when people perceive them.

Materialist empiricism (or sensualism), too, does not give a correct conception of cognition. Adherence to such

views can lead to denial of the role of reason, generalisations and conclusions, to recognising only the indications of the sense organs, of "personal experience".

It is clear, therefore, that *both rationalists and empiricists offer a one-sided solution of the problem of the role of reason and the senses in cognition.*

The limitation of the rationalists is that they reject the data of the senses, of personal experience. In reality, however, reason gives new knowledge only when it is enriched by the data of experience, by the impressions obtained through the practical sensuous cognition of things and phenomena. This means that only a leader who has a rich personal experience of the work in hand is able to penetrate the essence of the problems under study.

But incorrect, too, are those who maintain, like the empiricists, that *only* personal experience, immediate perception of reality by means of the sense organs, is capable of giving us knowledge of the external world. As a matter of fact, what does it mean in practice to recognise only personal experience and to deny the generalised knowledge afforded by our thought? It means artificially narrowing one's horizon, losing sight of wide prospects, and basing oneself only on what one has personally seen, felt and studied. Yet, however talented a man may be, his personal experience, although in itself of enormous importance, is but a drop in the ocean.

Hence it is clear that one must not exaggerate the role of one stage of knowledge and deny the role of the other. Sensuous and rational knowledge are equally important in cognition and the one simply cannot exist without the other. The important conclusion that follows from this is that there must be a unity of theory and practice.

Practice is the basis and driving force of cognition. Unity of theory and practice

Sensuous and rational knowledge is obtained through practical activity. If people did nothing they would not only have no knowledge, they would not even be able to exist. When they emerged from the animal world, people had no theoretical knowledge of nature's development, but they already engaged in labour: they obtained food, built dwellings and learnt to make clothing. Engels emphasised that the basis of human society was

labour, practical activity. In the practice of everyday life, man learnt everything necessary for the struggle against the forces of nature.

This is confirmed by our everyday experience. Man comes into the world at birth devoid of all knowledge. He acquires it as he comes into contact with phenomena around him, during practical activities. When a child stretches out his hand to the fire to take hold of it, he is still ignorant of its nature. Soon, however, he gets to know its properties through practical activity and he no longer attempts to take hold of it. He has acquired a certain amount of knowledge.

This does not mean, of course, that practical activity involves only people's personal experience. In our activity we use not only our own experience but also that of other people, i.e., the social experience of mankind as a whole. That is why Marxism speaks of *social* practice. This embraces the entire activity of people, during which they act on the material world and transform it: production, the class struggle, socialist and communist construction, scientific research, etc. In the final analysis, all knowledge is derived from the social practice of mankind. This is clearly seen from the history of science.

How, for example, did geometry arise? From ancient times, people engaged in cultivating their fields or building houses found it necessary to measure portions of land of various shapes and sizes. Gradually they discovered that there are certain general methods of measurement applicable to any plot of land with a definite form, such as a triangle, trapezium, etc. That is how every science arises, being a generalisation of practice. Definite phenomena and events occur in the world. The study and subsequent generalisation of them yields theory, science. Thus, *scientific knowledge, theory, arises out of practice, which is the basis of cognition.*

Here the following question may arise: does not what has been said mean that man is a passive, inactive being, fully subject to the influence of the external world? Of course not. Prior to Marx metaphysical materialists understood practice one-sidedly—as being merely the effect of the external world on man. *Marx's conception of practice, however, was much more profound: it included both the action of the external world on man and the action of man on the external world.* In the course of building factories and dwellings and

cultivating the land, people transform by their labour the environment in which they live. Their material activity leaves its mark on the surrounding material reality. Both the social and natural environment of man are largely the result of the practical activity of preceding generations. As for the revolutionary activity of people, parties and classes, it fundamentally alters the aspect of social relations and social life. Hence Marx spoke of the decisive role of social practice in people's lives. But practice plays a tremendous part also in human cognitive activity. It suffices to recall that language and scientific theory as a whole arise owing to man's production activity.

Practice is not only the basis but also the *driving force of cognition.* If, for example, life itself confronts agronomists with the task of finding the best method of cultivating a particular kind of soil, this task imposed by practice acts as a powerful stimulus to the development of agronomical science. In solving practical tasks, science cannot do without new generalisations. In this way it is enriched and developed. It is this powerful driving force that science loses when it is divorced from life, from practice. It is in this sense that Lenin said that practice is higher than theoretical knowledge. The standpoint of life, of practice, he taught, must be the primary and basic standpoint for the theory of knowledge.

Does not this, however, belittle the importance of theory, of science, in the productive or revolutionary activity of people? The enemies of Marxism—the revisionists—try to prove that, by speaking of the primary importance of practice for cognition, Marxists-Leninists deny the role of theory. But this is a sheer invention. The Communist Party has always attached exceptional importance to theory. Lenin taught that theory illumines the road of practice.

"Theory must continue to illumine the road of practice," states the Programme of the C.P.S.U., "and help to detect and eliminate obstacles and difficulties hindering successful communist construction."*

At the present stage of communist construction the solution of practical problems means at the same time solving theoretical problems. This implies that theoretical generalisa-

* *The Road to Communism*, p. 565.

tions must follow from the solution of practical tasks confronting the Party and the country. Marxist-Leninist theory cannot be developed in isolation from practice.

Hence recognising the importance of practice "alone", or the importance of theory "alone", is alien to materialist dialectics.

There is a dialectical unity of theory and practice. It is impossible to divorce one from the other. Theory derives from practice. At the same time it serves practice and enriches it. Without practice there can be no theory. But without revolutionary theory there can be no revolutionary practice. Without practice theory is lifeless and theoretical propositions are a dead weight. But without scientific theory, practice is blind and devoid of perspective.

Thus, *the indissoluble unity of theory and practice is a most important conclusion from the Marxist theory of knowledge.*

Which of them, however, plays the prime, leading role in this unity? As we have already seen, it is practice. But this does not mean that we underestimate the value of theory. On the contrary, its role is exceptionally great. In point of fact, man gets to know the world not at all for the sake of amusement, but in order to reach essential practical results. These can only be achieved in the course of transforming the world. Hence, only a theory that helps to transform the world is effective and deserves to be called by this name. And this transformation is the practical activity of people. Consequently, theory must always serve practice, and this does not in the least diminish its significance, its "worth".

Marxism-Leninism must never be thought of out of the context of life. Lenin wrote that while socialism was being built, a time would come when "theory would turn into practice, enliven it, correct and check it".* The immense advantage of Marxism-Leninism lies in its unbreakable link with life, in its constant enrichment due to a comprehensive analysis of reality.

The world is knowable

From what has been said, it is clear that our knowledge truly reflects events occurring in the world and correctly informs us of what takes place in the world.

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* Lenin, *Collected Works*, Vol. 26, pp. 374-75.

But if you look around you will see what a number of unrevealed "things-in-themselves" there are. Nature is a book which cannot be completely read. This is one of the most widespread "arguments" of the agnostics. They seek out what science has not yet done and say, as if with malicious glee: "Look what a lot of blank spots there are in science, and yet you talk of its power." But at every step this kind of view is refuted by practice. In the course of practice, one "secret" of nature after another is revealed. What yesterday was a "thing-in-itself" is today something known and has been put at man's service.

As a proof of the triumph of human cognition, Engels recalled the dyestuff alizarin, which used to be obtained from the roots of a plant, but which man has learnt to produce artificially from coal tar. This "thing-in-itself", said Engels, owing to human practice has become a "thing-for-us", i.e., it has become known.

How great then must be the power of human practice, when chemistry creates tens and hundreds of thousands of such artificial compounds! The same thing is taking place in all spheres of knowledge. The book of nature is gradually, page by page, being read through and becoming known to people.

What a number of secrets of the Earth has been revealed by geologists alone! The first geological map of Russia was published a little over seventy years ago. It was covered with "blank spots" indicating ignorance of the country's natural wealth. But after several years the new social order—socialism—triumphed and created conditions for a mighty development of production. And what happened? Practical requirements necessitated a thorough study of the geological structure of the Soviet Union. This gave remarkable results. Diamonds have been found in Yakutia, oil in Siberia, iron ore in Kazakhstan, gas in Central Asia, and many other mineral deposits have been discovered by geologists in the last few years alone.

One cannot help recalling here the feats of Soviet scientists who have done so much to reveal the secrets of the Universe. For centuries the reverse side of the Moon remained a "thing-in-itself". The French sociologist Auguste Comte declared forthrightly that men would never discover the secrets of the reverse side of the Moon which is invisible

from our planet. But this proved quite untrue. Soviet scientists invented an automatic interplanetary station, which flew round the Moon and photographed its reverse side.

This scientific achievement is yet one more practical refutation of agnosticism. Who now can believe the agnostics' statement that there are some sort of "bounds" to human knowledge, when man has made flights into space and extended the limits of our knowledge of the Universe.

In obtaining knowledge of nature, man overcomes one obstacle after another. He has every ground for saying: "I shall surmount everything!" This is bound up with the profound optimism of Marxist-Leninist philosophy, its affirmation of life, its deep faith in man's reason.

It has become more and more difficult for present-day agnostics to speak of the "bounds of knowledge", for science today is achieving breath-taking successes in getting knowledge of the world. The theologians, therefore, try to "reconcile" scientific facts with religious assertions of the "impotence" of human reason. The discoveries of modern science, they assert, afford knowledge of the supreme wisdom of the "Creator", they are a translation of His thoughts into human language. But the efforts of the churchmen are in vain! The whole history of science testifies that each step in its advance has been won in struggle against religion and the tyranny of the Church. And indeed why should God need to "reveal his secrets" through the scientists, the greater part of whom are atheists?

It follows from all this that *human knowledge develops from ignorance to knowledge, from incomplete knowledge to increasingly growing knowledge. In nature there are no unknowable things-in-themselves, there are only things which are not yet known, but which will be revealed by the powers of science and practice.*

But how can one be certain that the knowledge obtained in the process of cognition is true? This question requires separate examination.

TENTH TALK

WHAT IS TRUTH?

Can there be any reader who has never asked himself, "What is truth?" There are few who have never been concerned about it. It is not by chance that there is a Russian saying: "Truth is the light of reason; the light of the flesh is the sun; the light of the spirit is truth."

Hegel wrote: "Truth is a great word and a still greater subject. If a man's spirit and soul are healthy, his chest should expand at the sound of this word."

The founders of Marxist-Leninist theory are a great example of service to truth. Liebknecht, eminent leader of the German working-class movement and close companion-in-arms of Karl Marx, wrote in his reminiscences that Marx knew no other cult than that of truth, that he bowed to nothing except truth and revered nothing so much as truth. Lenin was proud of the power of "living, fertile, genuine, powerful, omnipotent, objective, absolute human knowledge".*

It is sometimes said that the search for truth is the business only of scientists, philosophers, writers and politicians. "Ordinary people," it is said, "can get along without searching for truth." No opinion could be more erroneous. People constantly have to search for and find out, i.e., cognise, the truth. At school, in industry, in the laboratory, in everyday life—everywhere knowledge is needed. Small matters require little knowledge, great matters require great knowledge, but always it is *true* knowledge that is essential. People seek to attain it through scientific, productive and social activities.

What kind of knowledge do we call true?

* Lenin, *Collected Works*, Vol. 38, p. 363.

What is truth? From everyday experience you will be aware that we describe as true a statement which is not invented but which corresponds to something real that exists in life itself. All that is in accord with reality is true. Truth is opposed to error, untruth. Our statements are false if they assert something that does not exist in fact, in real life.

Is this meaning, which has been reached by the experience of mankind, retained in the philosophical definition of truth? Yes, it is included in the materialist conception of truth. But the idealists distort it in all manner of ways. They regard nature as secondary, hence they do not compare thought with reality, but, on the contrary, adapt reality to their invented "principles" and "propositions".

The idealist conception of truth is closely bound up with the religious and mystical conception of it, which amounts to the assertion that God is the sole and eternal truth. But God, say the churchmen, is inscrutable for science; consequently, truth also is inscrutable for it. Truth, it is alleged, cannot be grasped in the process of cognition, nor in the course of man's productive activities, but only thanks to belief in God.

Science long ago proved that all the "revelations of religion" are as far from the truth as the sky is from the earth. Even today, however, obscurantists seek to cover their evil deeds by the great word "truth". "Honour and understand truth," they teach, pretending to be the servants of "heavenly truth", "divine truth".

Such views are nothing but a denial of scientific truth, a denial of science for the sake of faith, and in the mouths of some servants of religion it is simply trading on the attraction that truth has for the people.

Idealism and religion have not only not retained the meaning of the concepts of truth and falsehood as elaborated by mankind, but have distorted them.

Materialism alone affords a correct understanding of truth. It has preserved its meaning, which was elaborated by people's practical activities. The materialist Feuerbach, for example, sharply opposed attempts "to separate truth from reality, reality from truth!" The Russian revolutionary democrat, Chernyshevsky, believed in the power of the human mind and in the possibility of scientific knowledge of

reality. He wrote: "Truth is attained only by strict, all-round investigation of reality. . . ."

To sum up. Since human knowledge is true when it corresponds to reality, it does not depend on people's arbitrary whims or desires. The underlying thesis of this is that of the objectivity of truth. Marxist-Leninist philosophy was the first to solve the problem and advance this thesis.

Objective truth

In his work *Materialism and Empirio-Criticism,* Lenin describes as objective truth human ideas whose content "does not depend on a subject, does not depend either on a human being or on mankind."*

How should this be understood? Is truth perhaps nature itself, it may be asked, since truth exists objectively, i.e., independently of man? No, such a conception of objective truth would be a mistake. Something that exists can be neither true nor false. It simply exists. What can be true or false is only people's *knowledge,* their opinions, their assertions about what exists, and not reality itself.

Here another question may be raised. If truth is people's knowledge, why do we say that it does not depend on man? Is it not the case that people by their labour, by scientific research, achieve this or that scientific knowledge? The Machist Bogdanov argued in precisely this way. Since there is no truth without man, he said, there is no objective truth, it is always subjective, depending on man. But this view is incorrect.

There is indeed no truth without man. But its content does not depend on man. Truth is derived from the world surrounding man. It is not people's wishes that determine the truth of statements and opinions, but their accord with objective reality, with what actually exists in the world independently of man. That is why Lenin says that *objective truth does not depend on man. In other words, it does not depend on people's arbitrary action. Man does not create the truth, but reflects it in accordance with what exists in objective reality.*

Important practical conclusions follow from this.

The Communist Party is the enemy of all abuse of facts, of all violation of historical or objective truth. The highest

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* Lenin, *Collected Works,* Vol. 14, p. 122.

honour for a Communist is to serve truth and the people. In his practical activities he cannot permit the slightest distortion of the truth. Everywhere and in every matter he must be capable of looking truth in the face, of exposing any deception of the people, any distortion of the truth.

The Communist Party is strong because it tells the people the truth and therefore the people always have faith in it.

Of a directly opposite nature are the conclusions derived from the idealist world outlook by which bourgeois philosophers, diplomats, journalists, etc., are guided. The American journalist John Swinton, for example, wrote that a New York journalist has to distort the truth, lie openly, distort facts, defame people and bow the knee to Mammon. And one of the U.S. intelligence service chiefs, S. D. Jackson, plainly stated that in the struggle against the Soviet Union and other socialist countries, the U.S.A. needed not truth but subversive activities. There truly you have two world outlooks, two opposed approaches to reality.

Thus, in our practical activities, in everyday life, it is important to base oneself on those statements and judgments that are in accord with reality. But what gives people a guarantee of the truth of knowledge, of its accord with reality? In other words, wherein lies the criterion of the truth of our knowledge?

What is the criterion of truth?

Bourgeois philosophers assert that an idea is true if it is useful, advantageous to people. Such philosophers call themselves pragmatists. Pragmatism is widely held in the U.S.A. The pragmatist's criterion of truth is not objective, but subjective. Even a false, absurd theory or idea may sometimes prove very useful to a particular person or even to a whole class. Such, for example, are religious theories proving the existence of life beyond the grave, of heaven and hell. They are of advantage to the exploiting classes. Despite the benefit derived by the exploiters from religion, this teaching is false.

It may be asked: "Are not true theories useful? Do not the propositions of mathematics and physics serve our ends?" Undoubtedly, they are useful. But it is not on that account that they are true. On the contrary, it is precisely because they are true and correctly reflect the real world that they are useful to people.

Other philosophers (e.g., the Machist Bogdanov) say: truth is that on which all people are agreed, that which is universally recognised. They regard universal recognition as the criterion of truth. This criterion, too, is unreliable, subjective. It does not make much difference whether we make truth dependent on the desires of a few or a large number of people. Conditions do occur when not merely some, but a large number of people are in error.

We know that there were times when religious fantasies were "universally recognised". But this did not make them a whit nearer the truth. Finally, in a society divided into hostile classes, there is not and cannot be any "universal recognition" of truths when they affect class interests. What one class regards as true, the other declares false, and vice versa.

What then is the criterion of truth that is independent of the desires and opinions of people, that is an objective criterion? This criterion is *social practice.* People's social activity is the only reliable method of testing the truth or falsehood of our opinions, theories and ideas. Marx wrote that "in practice man must prove the truth, that is, the reality and power, the this-sidedness of his thinking."*

If our knowledge obtained by studying reality is confirmed by practice, it means that it is true, trustworthy and need not be doubted. The flight of the Soviet moon rocket was calculated with an accuracy that went as far as minutes and seconds. The landing of the rocket on the Moon at the pre-determined place and at the exactly calculated time was a practical confirmation of the truth of the Soviet scientists' calculations. On the other hand, theories that do not stand the test of life, of practice, are false theories. Thus, *practice is the touchstone for all theory.*

Why do we test the truth of our knowledge by means of practice? The explanation is as follows. We do not seek knowledge of reality out of idle curiosity. The idea conceived by an inventor, scientist or innovator is valuable if it can be put into effect. It is not every idea, however, that can be put into effect, but only true, correct ideas. False ideas have no application, for they do not correspond to reality. That is why we test the truth of our ideas by means of practice.

* Marx and Engels, *Selected Works* in two volumes, 1955, Vol. II, p. 403.

Consequently, *that which is confirmed by practice, and can therefore be realised in practice, corresponds to reality.* The criterion of practice and the principle of reflection must be included in the very definition of objective truth. *Objective truth is human knowledge which has been tested by experience, by practice, and which correctly reflects the surrounding material reality.* Lenin wrote: "Nature is reflected in the human brain. By checking the correctness of these reflections and applying them in his practice and technique, man arrives at objective truth."*

Important conclusions for everyday life follow from what we have said about the criterion of truth. In appraising, for example, our productive, scientific, economic and political activity we must be guided by the criterion of their practical results. In such cases life itself is the supreme judge. If reality refutes our calculations, proposals or hypotheses, we must have the courage to renounce them and, by deepening our knowledge, bring it into accord with experience, with practice. If we are obstinate and refuse to reckon with the facts of life, we shall always come to grief.

We have shown that *practice is the criterion of truth, the source and aim of knowledge.* It is the starting point and the prime cause that gives rise to the necessity of knowledge. *Practice is the sum-total of people's productive activity aimed at transforming nature* (the entire historical experience of the development of industry and agriculture). *It is the sum-total of socio-political activity aimed at transforming society* (class struggle, social revolutions, building of socialism and communism, national liberation struggle, the nations' struggle for peace). *It is, too, scientific-experimental activity.* In other words, practice is the activity of man aimed at changing material reality.

In his work *Materialism and Empirio-Criticism,* Lenin points out that the problem of truth consists of two questions: 1) is there such a thing as objective truth? 2) if so, can human ideas, which give expression to objective truth, express it all at one time, as a whole, unconditionally, absolutely, or only approximately, relatively?** We have already examined the

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* Lenin, *Collected Works,* Vol. 38, p. 201.
** *Ibid.,* Vol. 14, p. 122.

first question and answered it in the affirmative. We pass now to the second question—that of the relation between relative and absolute truth.

Relative truth

"One lives and learns." This popular saying is, as it were, an answer to the above question as to whether we can get to know truth immediately, wholly, completely and unconditionally. The Russian scientist, Pavlov, said that a single lifetime was too short for a scientist; however many secrets he revealed, many problems always remained to be solved. Nor can science as a whole ever complete the process of cognition. The history of science shows that a scientific truth is not discovered all at once, but gradually, step by step. Why is this?

To answer this question, let us reflect a little on the nature of human thought. Is it the thinking of a single individual? No. It is the thinking of all those people who study and get to know the world. They number thousands of millions and include all past, present and future generations. But these millions of people do not study nature all at once. Each one studies nature with the means at his disposal obtained from society. The thinking of each individual is always limited by the level of production, science and technique inherited by his generation.

There was a time when scientists did not even have simple weighing machines or thermometers, not to speak of microscopes, telescopes, etc. That, of course, severely limited their knowledge of the world. Nowadays science is equipped with highly complex apparatus. There is no doubt that in the future scientific instruments will become still more perfect and people will get to know much more about nature than they do today. Hence one cannot speak even today of "final" or "exhaustive" knowledge. It is at present relative, inexact.

Thus, in Lenin's words, "the limits of the truth of each scientific proposition are relative, now expanding, now shrinking with the growth of knowledge".* Human cognition is limited by the level of development of society, i.e., by the framework of the given historical era, by the level of knowledge already attained. No one is able to free himself from these limitations or disregard these conditions. Every scientific theory, every truth, bears the mark of historical limita-

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* *Ibid.*, p. 135.

tion. In every historical period, therefore, people's knowledge is relative. *Relative truth is an idea, concept or assertion which is basically correct, i.e., accords with reality, but which is incomplete and is made deeper and more exact by the development of science and practice.*

Absolute truth

In this connection you will probably ask: if there is no complete, final knowledge, if it is always relative, can there be any *absolute truth,* i.e., truth which is final, complete, exhaustive?

Some philosophers answer this question as follows: since the process of cognition yields us only knowledge that often becomes out-of-date or is even refuted, it means that there is no absolute truth but only relative truth. In our knowledge everything is transient, everything is changing, nothing is constant. Everything is relative, say these philosophers. Hence they are called *relativists.*

Other philosophers argue in a different way. They maintain that truths which become obsolete, which require greater precision or further study, are not truths at all. "Real" truths do not become obsolete, they are eternal, given once and for all. These are absolute, perfect, ultimate truths. Philosophers who argue in this way are dogmatists; for them truths are dogmas, that is to say, eternal, immutable propositions given once and for all.

It is noticeable, in the first place, that dogmatists reduce the question of absolute truth exclusively to the question of "eternal" truths. They say: it cannot be doubted that twice two will always be four, that the sum of the angles of a triangle is and always will be equal to two right angles, that Paris is in France. These are eternal, final, ultimate truths, i.e., absolute truths.

"But surely such truths do exist," you may say. "Why should that be a dogmatic interpretation of the problem?"

Yes, such truths really do exist. They are to be found in the sciences of inorganic nature, e.g., mathematics, astronomy and mechanics. Here there are such truths as that twice two is four. Even in the so-called exact sciences, however, not all propositions are as eternal as the dogmatists believe. Hundreds of hypotheses in astronomy, physics and chemistry have been refuted by the subsequent development of science. You will certainly agree, too, that there are still fewer "eternal" truths in such sciences as biology, and in

the social sciences there are very few indeed. Here the only eternal truths will be propositions such as: Napoleon died on May 5, 1821, and so forth.

You see, therefore, that the majority of so-called eternal truths are mere platitudes, banalities. In our practical activities, however, we usually seek not such commonplace truths, but knowledge which offers something new.

But do there not exist eternal scientific truths, i.e., such as cannot be refuted in the future? And does not therefore eternal, irrefutable, absolute truth exist as perfected knowledge of nature as a whole?

This question deserves attention also because there really are no barriers to man's knowledge of nature. What was unknown yesterday, we know today, and what is unknown today, we shall know tomorrow or the day after.

Nevertheless, it is impossible to speak of absolute truth as being final knowledge of nature as a whole. Indeed, is it really possible to assume that at any given time mankind will apprehend all that exists, will complete the study of the Universe, and in this sense get to know absolute truth? People will never be able to understand the world right to the end, for nature is endless and is eternally developing. Hence, it is stupid to set bounds to human knowledge.

In that case, you may ask, how do matters stand in regard to absolute truth, i.e., final, eternal, absolute knowledge? Is it something that people can never attain?

If such knowledge is conceived metaphysically, as eternal truths after which cognition ceases, then there really are no such "final" truths. If, however, we approach the question from the solely correct, dialectical-materialist standpoint, then it must be recognised that absolute truth exists and is fully attainable.

To make this clear, let us recall Lenin's statement that truth is a process and that its attainment is also a process. Truth must not be conceived as a final, exhaustive image or picture of nature as a whole. The process of arriving at absolute truth is not an instantaneous act, but a complex, historically endless, process of cognition, which mankind will never completely finish.

The achievement of absolute truth takes place by the accumulation of relative truths. The development of knowledge lies in the fact that these relative truths which are gradually

accumulated bring mankind closer to knowledge of nature as a whole, of its phenomena and laws. *Just as a whole is formed from its parts, so absolute knowledge is made up of relative truths in the eternal process of the development of knowledge.*

This conception of absolute truth—as the sum of relative truths during the process of their development—is opposed to the metaphysical separation of absolute from relative truth. It is clear from this that there is no impassable barrier between them. By cognition of relative truths, we thereby acquire valuable particles of absolute truth.

Our knowledge is both absolute and relative. It is in essence absolute, for there are no barriers to mankind's deeper and deeper study of reality. At the same time, however, it is relative, for it is always conditioned by the limited possibilities of a particular epoch.

"But is there not a contradiction here?" the reader may ask. Yes, there is a contradiction. On the one hand, human thought is capable of getting to know everything in the world; on the other hand, this knowledge cannot be exhaustive, for it is achieved by individuals whose thought is limited. It is, however, a dialectical contradiction, one which serves to advance science and prevents it from standing still.

"But in that case," you may say, "absolute truth is only a goal to which mankind aspires but which it never reaches." No, that only seems to be so. A little reflection will make this clear. "Life arose from non-living matter", "the brain is the organ of thought", "bodies consist of atoms"—all these and similar assertions are irrefutable; they have already been proved by science and practice. They are real particles of absolute knowledge. But that does not mean that such theses are "ultimate" truths. It is erroneous to hold the view that absolute truth does not depend on historical conditions, that it does not require to be made more exact and complete, that it is impossible to add anything to it or subtract anything from it, and that it cannot be affected by the development of science and technology. No such truth exists in reality, and to seek it would be labour in vain.

Consider the following example. More than two thousand years ago Democritus taught: "All bodies consist of minute indivisible particles—atoms." Science has now proved that bodies actually do consist of atoms, but the atoms are divis-

ible. Hence Democritus' assertion was a relative truth. But it contained also a particle of absolute truth. Science subsequently made his theory more profound. That the atom consists of a positively charged nucleus and negative electrons, that the atomic nucleus contains energy which can be utilised, and many other propositions of atomic theory are absolute truths which cannot be refuted in the future. But this does not mean that in this field science has already exhausted all its possibilities. The structure of the atom will be more and more deeply studied and therefore atomic theory will inevitably undergo development. It is clear from this that *although human knowledge is relative, this does not at all mean that it has no absolute content. Every relative truth is a particle of absolute truth.*

Every scientific discovery, every scientific truth, every natural law is a unity of absolute and relative truth.

It follows that *knowledge of objective truth is achieved* not immediately and absolutely, but gradually, *by knowledge of relative truths. The sum total of relative truths in their development gives us full, profound, absolute knowledge both of nature as a whole and of particular aspects of objective reality.*

What is the significance of this solution of the problem as far as people's practical activities, and scientific progress are concerned?

The Marxist-Leninist view that there are no "ultimate", "final" truths, that every scientific truth is relative and is a stage in the cognition of absolute truth, is the theoretical basis of the Communist Party's struggle against all theories of a "margin" in the development of science. The Communist Party demands that all new scientific discoveries be made use of in production, instead of resting content with what has already been achieved. However high the level reached by science and production it does not constitute a margin.

Great practical significance attaches also to the proposition that truth is not revealed directly and all at once, that the path of its discovery is a complex one. Hence in science mutual checking of experimental results is essential. It leads to a struggle of opinions. One should always bear in mind Lenin's statement that man's search for truth has never been, and cannot be, conducted without polemics, without discussion, without "human emotion".

Scientific research workers rarely manage to avoid mistakes and errors; firstly, because each individual's capacity for cognising the world is limited, and, secondly, because experience never comes to an end. Certain sources of error are therefore contained in the very process of cognition.

The Communist Party, however, teaches that mistakes are of different kinds. There are mistakes which are the result of a neglectful and sometimes even criminal attitude. These always do great harm and must be relentlessly fought. But mistakes also arise from research into what is new and unexplored. These are the mistakes of the initiators of big things, who learn in the course of practice and overcome their mistakes. Such mistakes and errors are possible in the pursuit of truth. In such cases it is important to make every effort to overcome difficulties. The creative process is here tantamount to a self-critical attitude to one's own work. Progress is achieved by correcting one's own errors and mistakes.

A critical attitude to the results of one's own efforts is an indispensable condition for successful creative work. On the other hand, to persist in one's mistakes, to be afraid of self-criticism, to consider that "ultimate truth" has already been attained, and the results achieved are no longer susceptible of improvement, will inevitably do great harm.

It should be remembered that in both great and small matters we proceed by making our knowledge more and more perfect, progressing from relative truths to a more complete study of one or another field of human activity by overcoming difficulties and errors.

In the course of cognition one must not demand "final" and, in this sense, absolute knowledge. Nor should one permit a state of complacency and self-satisfaction, since the process of perfecting knowledge is an endless one. This is bound up with the fact that the cognition of truth always takes place under definite concrete conditions.

Truth is always concrete

Suppose you had to answer the question: "How must crops be cared for?" You would surely say that it is necessary to state precisely what kind of agricultural zone is concerned, and at what time of the year, etc.

The question was put abstractly. You tried to make it more precise by stating that one must take into account the

actual conditions and not act in a stereotyped way. It is equally impossible to answer the question: "What should be the forms and methods of the Communists' struggle for peace, democracy and socialism?" Such questions can only be answered when the actual conditions are stated under which such developments occur. Here we arrive at the following important principle of dialectics: "There is no such thing as abstract truth, truth is always concrete."* Lenin pointed out that the demand for concrete thought, that is, for an analysis of the conditions of development of a particular phenomenon or event, expresses the "spirit and essence of dialectics".

Concrete truth is truth that correctly reflects the essence of definite phenomena and of the conditions in which they develop. In contrast to this, abstract truth ignores the concrete circumstances and conditions in which phenomena develop.

It is characteristic of dogmatism that in analysing reality it is guided only by general propositions and abstract truths, applying them regardless of the conditions in which one has to operate. Lenin repeatedly stressed that the essence of creative Marxism, its vital element, is "concrete analysis of the concrete situation".**

As we have already said, developments depend on the conditions and the time of their occurrence. Creative Marxism requires that attention should always be paid to the concrete conditions and historical circumstances in which our activity has to proceed. That is the essence of the concrete historical approach to reality.

A mechanical application of well-known general propositions to everything that happens in life is alien to Marxism-Leninism. When conditions alter and old theoretical propositions, tactical methods of struggle, or forms of managing the economy are no longer in accord with new conditions, with practice, they must be boldly changed and improved. The Communist Party always acts in this way, displaying in everything a spirit of creativity and genuine innovation.

The tactics of the Communist Party, its methods in the struggle for the victory of the proletariat, have never been "immutable", "eternal". They have altered in accordance

* Lenin, *Collected Works*, Vol. 7, p. 412.

** *Ibid.*, Vol. 31, p. 143.

with historical conditions. The Communist Party has always had a sensitive ear for the pulse of life. Life cannot be cramped into forms that have been moulded once and for all; it is highly complex and has many facets. In dealing with it one is continually having to solve "political equations" containing many unknowns. Dogmatist is unable to cope with them. Clinging to old forms, he tries to compress in them all the wealth of life. The Communist Party rejects in principle such an approach. It is invariably guided by the directives given by Lenin, who taught us flexibility in tactics, in the forms and methods of work.

The Twenty-Second Congress of the C.P.S.U. called all builders of communism to display a creative approach in their activities. Such creativity is incompatible with any kind of stereotype. In both economic and political activity everything depends on the circumstances of place and time.

Thus, *in all spheres of productive, political and scientific activity the Communist Party displays flexibility and a creative approach based on concrete historical analysis of reality.*

In conformity with concrete historical conditions, the Communist Party brings up the most important problems and solves them as being the prime ones. Lenin metaphorically described such problems as the "main links". He called for the ability to determine at each stage of the life of the Party and the country *the main link in the chain of events,* by grasping which one can gain possession of the whole chain.

In our practical activities we are always faced by a multitude of problems, all of which have to be solved. In accomplishing this, we must begin with the main problem. By solving it we facilitate the solution of all the other problems, we gain possession of the whole chain, as Lenin said.

At the beginning of the twentieth century, when Lenin set about creating the Communist Party, he first of all asked: how should it be organised? He devoted a special article to this subject, in which he pointed out the main link, by grasping which it would be possible to solve all the problems confronting the Russian Marxists. Lenin proposed that Marxists should begin by organising an all-Russian newspaper. It was bound to become a collective propagandist for Marxist ideas, a collective organiser, a core that would gather around it all that was best and most progressive. Such a newspaper, as is well known, was the Leninist *Iskra.*

In the industrial development of the Soviet Union, technological progress is the main link by grasping which the Party and the people are successfully bringing to fruition the plans outlined in the Programme of the C.P.S.U. for creating the material and technical basis of communism. The main line in the development of Soviet agriculture continues to be increased production of grain as the basis of all agricultural output. "Accelerated growth of *grain* production," states the Programme of the C.P.S.U., "is the chief link in the further development of agriculture and a basis for the rapid growth of stock-breeding."*

The main link in the Soviet foreign policy is the struggle for peace, for peaceful coexistence, for preventing a new devastating war. The Communist Parties of the world "regard the fight for peace as their prime task."**

It is clear, therefore, that in all spheres of production and political life it is important to determine the main link in the chain of events. This is the most important requirement of the creative approach to the analysis of reality.

CONCLUDING TALK

This book acquaints the reader with only the main propositions of dialectical materialism. But study of the theory of dialectical materialism should not, of course, end there. What are the best lines of further work to gain a deeper mastery of the subject? The best way is by a study of original sources, the classic works of the founders of Marxism-Leninism. Which of these works should one begin with? This is not an easy question to answer.

The point is that there is not a single work of Marx, Engels or Lenin that does not in some degree touch upon problems of a general world outlook. Very clear evidence of this is to be seen in the works of Marx. It is well known, for example, that *Capital* is Marx's great work on political economy. But what a wealth of philosophical ideas it contains! It is a model example of the application of the dialectical method created by Marx to an analysis of concrete questions

* *The Road to Communism*, pp. 524-25.

** *The Struggle for Peace, Democracy and Socialism*, p. 57.

of economic science and revolutionary practice. There is not a single category of materialist dialectics which does not owe its further development to this work. It was here that Marx formulated his idea that "with him (Hegel) dialectics is standing on its head. It must be turned right side up again if you would discover the rational kernel within the mystical shell".* Marx reveals here the diametrical opposition between the method of materialist dialectics and that of Hegel's idealist dialectics. Lenin was fully justified in saying that while Marx did not leave a treatise on Logic, he left us the logic of *Capital.*

Among the classics of Marxism-Leninism, there are a number of works of special importance for studying Marxist philosophy. We shall give a brief account of them.

Anti-Dühring

Engels's *Anti-Dühring* is a militant, polemical work aimed against the German petty-bourgeois ideologist, Eugen Dühring, who called himself a "materialist" and "socialist", but who in fact produced a vulgarised version of both materialism and socialism. The significance of Engels's book, however, is far greater than that of a direct polemic; it has passed into history as a work which comprehensively throws light on all three component parts of Marxism: philosophy, political economy and scientific communism. Marx took an active part in the creation of this work; he read Engels's manuscript and gave his comments on it, he edited it and himself wrote a chapter of it.

The book consists of three parts: philosophy, political economy and socialism. The first part contains a profound exposition of the main problems of dialectical materialism.

By studying this part of the book, the reader will deepen his knowledge of the highly important thesis that the world exists objectively, and that man reflects the processes occurring in it. Every science, says Engels, reflects reality. Illustrating this from the example of mathematics, Engels wrote: "The concepts of number and figure have not been derived from any source other than the world of reality.... Like all other sciences, mathematics arose out of the *needs* of men: from the measurement of land and the content of vessels, from the computation of time and from mechanics."**

* Marx, *Capital,* Vol. I, p. 20.
** Engels, *Anti-Dühring,* 1954, pp. 58-59.

Here, too, one finds Engels's very important proposition: "The real unity of the world consists in its materiality, and this is proved ... by a long and wearisome development of philosophy and natural science".* This statement of Engels's is of vast significance. The whole history of science and philosophy confirms that there is only one, material, "this-sided" world, thereby delivering a crushing blow to idealism and religion.

Engels's book deals in detail with the very important question of the unity and inseparable connection of matter and motion. He formulates one of the fundamental propositions of dialectical materialism, viz., that "never anywhere has there been matter without motion, nor can there be".** This proposition has a profound atheistic significance: since motion is an eternal attribute of matter there cannot be any question of a "divine first impulse".

Particularly important are those sections of the book which reveal the main laws of materialist dialectics.*** All of them are described on the basis of the data of the natural sciences—physics, chemistry, biology and mathematics.

Engels's book also makes a detailed and comprehensive examination of the problem of objective, relative and absolute truth. Of fundamental importance here is Engels's criticism of Dühring's so-called final and ultimate truths.**** It is a criticism of dogmatism in general. The reader would do well to ponder the current significance of this criticism for the struggle against modern dogmatism which tries to turn various propositions of Marxist theory into "eternal", "immutable" dogmas that are supposed to be independent of historical conditions.

Engels examines the problem of freedom in the third part of his book. Here is to be found his famous statement that communism is "the ascent of man from the kingdom of necessity to the kingdom of freedom",***** a leap

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* *Ibid.*, pp. 65-66.

** *Ibid.*, p. 86.

*** On the law of the unity and struggle of opposites, see pp. 165, 166; on the law of the passage of quantitative into qualitative changes, see pp. 95, 173; on the negation of the negation, see pp. 190, 194-95.

**** See Engels, *Anti-Dühring*, pp. 119, 122.

***** *Ibid.*, p. 391

which is being accomplished today by the Soviet people building communism.

Ludwig Feuerbach and the End of Classical German Philosophy

This is a classic work in which Engels briefly expounds the essence of Marxist philosophy. Lenin wrote that *Ludwig Feuerbach* and *Anti-Dühring* "like the *Communist Manifesto* are handbooks of every class-conscious worker".*

In studying the first chapter of *Ludwig Feuerbach*, attention should be paid to the critical examination of Hegel's philosophy and especially the analysis of the contradiction between Hegel's dialectical method and the idealist content of his philosophy, a contradiction with which the reader was already familiar in our second talk.

In his second chapter, Engels gives a classic formulation of the fundamental question of philosophy—that of the relation of thought to being, of spirit to nature**—which is of great importance for understanding any philosophical system. It makes it possible to recognise and expose every idealist trend in philosophy whatever the mask it hides under. Here, too, Engels says that the materialist standpoint means comprehension of the real world, requiring an approach to it free from pre-conceived idealist crotchets.***

In *Ludwig Feuerbach*, too, the reader will find the formulation of the second aspect of the fundamental question of philosophy, viz., whether the human mind is able to get to know the external world. In answering this question, Engels criticises agnosticism and stresses the decisive role of social practice in refuting it. Here, developing the idea that Marx outlined in his "Theses on Feuerbach", Engels postulates practice as the basis of the theory of knowledge and the criterion of truth. He substantiates the view that practice is the sole proof that the world around us can be known.

The fourth chapter acquaints the reader with Engels's description of the essence of dialectical-materialist theory. He criticises Feuerbach for having totally discarded Hegel's philosophy, whereas what had to be done was to get rid of its reactionary aspect, but in such a way as to preserve and

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* Lenin, *Collected Works*, Vol. 19, p. 24.

** See Marx and Engels, *Selected Works*, Vol. II, pp. 368-69.

*** *Ibid.*, p. 386.

make use of its "rational kernel", i.e., dialectics. It is just this that the founders of Marxism achieved: by fundamentally refashioning Feuerbach's materialism and Hegel's dialectics they created a genuine scientific philosophy–dialectical materialism.

Materialism and Empirio-Criticism

This book of Lenin's* was an epoch-making work in the development of Marxist philosophy. It was published in May 1909, during the period of reaction which set in after the defeat of the first Russian bourgeois-democratic revolution of 1905-07. This circumstance is very important for understanding the historic significance of Lenin's *Materialism and Empirio-Criticism.*

Reaction was taking the offensive in all directions: in the economic, political and ideological spheres. Under these conditions the efforts to revise the philosophy of Marxism were especially dangerous. Such revision was undertaken by a group of Russian Social-Democrats: Bogdanov, Bazarov, Yushkevich, Valentinov, and others. They published a series of articles and books attacking the foundations of dialectical and historical materialism.

They tried to justify their revision of Marxist philosophy by the need to "improve" and "renovate" it because, they alleged, dialectical materialism was "out-of-date" and was "not in accord" with the new level of science. They tried to substitute for the philosophy of Marxism an idealist trend, fashionable at that time in the West, called "empirio-criticism" and signifying the philosophy of "critical experience". By means of this pseudo-scientific term they masked the subjective-idealist essence of their doctrine. Lenin often called this philosophy Machism, from the name of its founder–the Austrian physicist and philosopher, Ernst Mach.

There is another important circumstance that should be noted. At the turn of the century a number of discoveries were made in physics and these gave rise to new philosophical problems, which were dealt with in our third talk. Here it is important to emphasise that the Machists used them to "refute" materialism, calling their own philosophy the "philosophy of natural science" of the twentieth century. It was this falsehood that was seized upon by the

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* See Lenin, *Collected Works,* Vol. 14.

Russian Machists, who alleged that dialectical materialism was "out-of-date". In his book, therefore, Lenin made a profound analysis of the latest data of natural science, particularly physics, generalised them and showed that Machism distorted the essence and significance of the revolution in physics that had taken place at the turn of the century.

What are the conclusions in this work of Lenin's to which special attention should be directed?

We have already seen that the whole history of philosophy is made up of the struggle between materialism and idealism. The Machists, however, tried to prove that they had "risen above" materialism and idealism, that they had created a "neutral" philosophy. In his introduction, Lenin demonstrated in detail that the Machists had not created any kind of "new", "neutral" philosophy. Their philosophy was a mere revival of Berkeley's subjective idealism. The introduction to the book is entitled "How Certain 'Marxists' in 1908 and Certain Idealists in 1910 Refuted Materialism". Comparing the utterances of the Russian Machists with those of Berkeley, who lived two hundred years earlier, Lenin shows the complete coincidence of their views.

In the first three chapters, Lenin exposes the Machist "arguments" regarding one of the fundamental problems—the theory of knowledge—and proves that the principles of dialectical materialism cannot be shaken. In studying these chapters, the reader is likely to encounter certain difficulties owing to the extremely confused way in which the Machists themselves expound their views.

Lenin reveals the real meaning of the Machist theories. Let us take by way of example Lenin's criticism of Mach's theory of "world-elements" and of the theories of Avenarius (one of the Machists) concerning what the latter calls the principal co-ordination.*

The criticism of Mach's "world-elements" is made in connection with the problem of sensations. Here Lenin formulates two lines—the materialist line and the idealist line. "Are we to proceed from things to sensation and thought? Or are we to proceed from thought and sensation to things? The first line, i.e., the materialist line, is adopted by Engels. The second, i.e., the idealist line, is adopted by Mach."**

* Lenin, *Collected Works*, Vol. 14, pp. 53-74.

** *Ibid.*, p. 42.

The problem of sensations in Mach's theory of "world-elements" is tackled along idealist lines. Mach calls sensations "world-elements". The world, he declares, does not consist of objective things, but only of sensations—"world-elements". Things are "complexes of sensations". Hence, it is alleged, we must study sensations, not things. This is a subjective-idealist standpoint. In order to confuse the reader, Mach resorts to sophistry. Lenin exposes this sophistry of Mach's theory of "world-elements".

In order to realise this, turn your attention to the following. Mach asserts that there are two series of elements: 1) those not depending on man (what he calls physical elements) and 2) those depending on man (what he calls psychical elements). Wherein lies the falsity, the sophistry, there? In the permanent coexistence of the two series—the physical and the psychical. This implies that the real world, the "physical series" exists not objectively, but in dependence on the psychical series". But that is precisely the essence of subjective idealism, for which things exist only when they are perceived by the subject, by man.

The same thing has to be said of Avenarius's "principal co-ordination". According to him, there is an inseparable connection (a "co-ordination") between the subject and the material environment, or, in his terminology, between the self and the non-self. In other words, nature and the subject, can only exist together. How does Lenin refute this point of view?

Lenin poses the very simple and at the same time deeply scientific question: "Did nature exist prior to man?" We have already said in the fourth talk that the scientific answer to this question is a remarkable confirmation of the materialist theory of the primacy of matter and the secondary nature of consciousness. At the same time it is a convincing refutation of the notorious "principal co-ordination".

Nature existed long before the appearance of man; consequently, man and nature by no means exist inseparably, in conjunction. In other words, nature exists objectively, apart from and independent of man.

While criticising Machism and exposing its arguments, Lenin comprehensively substantiates and develops the Marxist theory of knowledge. It is here that he shows in a specially detailed account that our knowledge is a copy, a reflection of reality. Almost the whole of the second chapter is devoted to

this subject.* The reader will find here three highly important epistemological conclusions drawn by Lenin on the basis of his criticism of agnosticism: 1) things exist independently of our consciousness, independently of our perceptions, outside us; 2) there is no difference in principle between the appearance and the "thing-in-itself", and there cannot be any such difference. The difference is only between what is known and what is not yet known; 3) in the theory of knowledge, as in every other branch of science, we must think dialectically, that is, we must not regard our knowledge as ready-made and unalterable, but must determine how knowledge emerges from ignorance, how incomplete, inexact knowledge becomes more complete and more exact.

In studying the problems of knowledge, attention should be directed to Lenin's criticism of the so-called theory of symbols, to which a special section of the Fourth Chapter is devoted.** Here Lenin exposes the essence of the "theory of symbols" or "theory of hieroglyphs", as it is sometimes called.

We have already seen that our knowledge is represented by images, copies, of reality. The adherents of the above theory, however, maintain that man's knowledge consists merely of "hieroglyphs", "symbols", of real things, and not copies of them. They deny that they have any resemblance to reality. Lenin points out that the theory of hieroglyphs is an unscientific, Kantian theory, for it denies the possibility of knowledge of the world by asserting that our knowledge does not correspond to reality.

An important part of Lenin's book is devoted to the problem of matter. We have already, in the third talk, quoted the philosophical definition of matter given by Lenin.*** He returns to this category again and again and throws fresh light on it in literally every chapter of the book.****

The reader should pay special attention to Chapter Five of Lenin's book, which deals with the philosophical problems raised by natural science. An answer will be found there to such questions as: What is the nature of the revolution in

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* Lenin, *Collected Works*, Vol. 14, pp. 99, 103, 104, 107, 109, 114, 115.

** *Ibid.*, pp. 232-38.

*** See the present volume, p. 44.

**** See Lenin, *Collected Works*, Vol. 14, pp. 26, 27, 28, 29, 46, 47, 63, 75, 86, 92-93, 146, 274-77, 279-82, 297-98, 308, 312-13.

physics? What are the main features of the crisis in physics? How did it arise? What is the way out of the crisis?

Lenin showed that the new discoveries revolutionising physics (which were described in our third talk) were not themselves the cause of the crisis in it. The crisis lay in the idealist conclusions drawn by bourgeois philosophers from these discoveries. The fact was that idealist philosophers—Machists and empirio-critics—were trying to exploit the revolution in natural science for their own ends. It was this link between the revolution in physics and philosophical idealism that Lenin pointed out when he wrote: "The *essence* of the crisis in modern physics consists in the breakdown of the old laws and basic principles, in the rejection of an objective reality existing outside the mind, that is, in the replacement of materialism by idealism and agnosticism. 'Matter has disappeared'—one may thus express the fundamental and characteristic difficulty in relation to many of the particular questions, which has created this crisis."* This was the basis on which there arose such a monstrous phenomenon as "physical" idealism, which Lenin subjected to profound scientific criticism.

A study of Lenin's book is of tremendous importance for the struggle against the present-day Machists, anti-Communists and revisionists of all shades.

Philosophical Notebooks

This work of Lenin's is a veritable encyclopaedia of philosophical knowledge. The wide range of problems that Lenin deals with is due to the very nature of the book. At the various times when he was occupied with philosophy he made extensive extracts from diverse philosophical works. Particularly valuable are Lenin's profound critical remarks, his comments, conclusions and generalisations. He worked on philosophical problems with particular intensity in 1914-16. There is not a single philosophical problem of any significance which Lenin does not touch upon and analyse in this book.

Questions relating to dialectics occupy the central place in Lenin's book, which provides us with a further development of materialist dialectics. Of vast importance from the standpoint of principle is the way in which Lenin defines the objective content of dialectics, pointing out that "the dialectics of

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* *Ibid.*, p. 258.

things produces the dialectics of *ideas*, and not vice versa".* This means that philosophical concepts and categories reflect the dialectics of nature itself and of society. This puts in a more concrete way the well-known thought expressed by Engels that the dialectics of ideas or, as he calls it, subjective dialectics is a reflection of the dialectics of things, of objective dialectics, the dialectics of material reality itself.

Lenin further on reveals the inseparable unity of dialectics and materialism, stressing that it is precisely *materialist* dialectics that is the concern of Marxist philosophy. Criticising Hegel for the idealist character of his dialectics, Lenin writes: "Hegel, the supporter of dialectics, could not understand the *dialectical* transition *from* matter *to* motion, *from* matter *to* consciousness—especially the second. Marx corrected the error (or weakness?) of the mystic."**

With profound insight Lenin reveals the contrast between dialectics and metaphysics in examining the question of two conceptions of development. This is to be found in the fragment entitled "On the Question of Dialectics".*** Here Lenin analyses the problem of the inner source of development of natural phenomena and points out that it is his view taken of this problem that provides the sharpest division between dialectics and metaphysics.

Lenin devotes great attention to the laws of materialist dialectics. He touches on them throughout the book. We shall indicate only some basic, key questions. The central place is taken by the law of the unity and struggle of opposites. Basing himself on the data of various sciences, Lenin reveals the universal nature of this law and shows that all the phenomena of the world are characterised by internal contradictions and consist of opposite aspects and tendencies.**** Here he draws the important conclusion that "the splitting of a single whole and the cognition of its contradictory parts ... is the essence of dialectics".

In acquainting oneself with this part of Lenin's work one can also study more deeply the relative character of "unity" and the absolute character of the "struggle" of opposites*****,

* Lenin, *Collected Works*, Vol. 38, p. 196.

** *Ibid.*, p. 283.

*** *Ibid.*, pp. 359-63.

**** *Ibid.*, pp. 359-60.

***** *Ibid.*, p. 360.

and the question of contradictions as the source of development.*

The essence of the law of the passage of quantitative into qualitative changes, and the contrast between the dialectical and the metaphysical view of this is also expounded by Lenin in the above-mentioned fragment "On the Question of Dialectics". Metaphysics, says Lenin, regards "development as decrease and increase, as repetition".** It does not see the source of development.

Dialectics, however, by pointing to the struggle of opposites as the source of development "furnishes the key to the 'leaps', to the 'break in continuity', to the 'transformation into the opposite', to the destruction of the old and the emergence of the new".*** It is clearly seen that Lenin profoundly reveals the connection, the inner unity, of the two most important laws of materialist dialectics.

This work contains also profound ideas on the leap as the moment of transition from the old quality to the new. Attention should be directed to Lenin's remark that "gradualness explains nothing without leaps".**** It is in this connection that one can understand the question raised by Lenin and the answer which he gives to it: "What distinguishes the dialectical transition from the undialectical transition? The leap. The contradiction. The interruption of gradualness."*****

This work of Lenin's is of great importance for studying the categories of materialist dialectics. One finds here profound ideas about the nature and significance of these categories, which Lenin calls stages in cognition of the objective world.

How were the categories formed in the process of human cognition and how did they develop in the history of science? Do they have an objective content? What is the connection between them? A study of Lenin's work furnishes comprehensive answers to these questions. "The practical activity of man," Lenin writes, "had to lead his consciousness to the repetition of the various logical figures thousands of millions of times *in order that* these figures *could* obtain the

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* *Ibid.*, p. 360.
** *Ibid.*
*** *Ibid.*
**** *Ibid.*, p. 123.
***** *Ibid.*, p. 284.

significance of axioms."* It is clear from this that the categories are the result, the conclusion of the history of cognition of the world, of all human practice. Hence they have an objective content and have not been derived by man from his consciousness, his thought, have not been invented by him for the sake of "convenience". In this connection Lenin gives a criticism of the idealist conception of the categories.**

Lenin's work enables us to make a deep study of individual categories. In studying cause and effect, attention should be drawn to Lenin's statement that "causality, as usually understood by us, is only a small particle of universal interconnection, but (a materialist extension) a particle not of the subjective, but of the objectively real connection".***

How are we to understand this idea of Lenin's? The causal connection is very important, it is universal and of tremendous significance in the world. But it must not be regarded as the sole form of connection. Lenin says that the universal interconnection of phenomena in nature and society is considerably broader and richer than the causal connection, the latter being only "a small particle" of the universal interconnection.

In examining the categories of necessity and freedom, Lenin devotes special attention to the question of man's free, purposive activity.**** This analysis makes it clear that man's ends are determined by law, by necessity, although sometimes "it *seems* to man as if his ends are taken from outside the world, and are independent of the world ('freedom')".***** Of overriding importance is Lenin's analysis of freedom as a socio-political phenomenon, especially his criticism of bourgeois views of "free" capitalist society.******

Lenin demonstrates the dialectical connection, the unity, of form and content. He writes: "Form is essential. Essence is formed. In one way or another also in dependence on essence. . . ."******* This signifies that in revealing the unity

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* Lenin, *Collected Works*, Vol. 38, p. 190.

** *Ibid.*, pp. 178, 206-07, 208-09.

*** *Ibid.*, p. 160.

**** *Ibid.*, pp. 187, 188, 189.

***** *Ibid.*, p. 189.

****** *Ibid.*, p. 39.

******* *Ibid.*, p. 144.

of form and content we thereby penetrate deeply into the essence of phenomena.

In studying the categories of essence and phenomenon it is important to understand clearly Lenin's criticism of idealism and metaphysics in regard to this question.* Great significance attaches also to Lenin's analysis of the unity of essence and phenomenon, and his proposition that "... *law* and *essence* are concepts of the same kind (of the same order) or rather, of the same degree, expressing the deepening of man's knowledge of phenomena, the world, etc".** This means that law is the expression of some particular aspect of essence. The essence of phenomena is expressed in individual laws discovered by science. The category of law makes essence concrete.

In this work of Lenin's the reader will encounter also the categories of essence and appearance (semblance). As the very name shows, appearance (semblance) is a manifestation of individual aspects of reality, of essence, immediately apprehended in man's sense perceptions. Hence, semblance contains a subjective moment. But, as Lenin emphasises, it, too, "is the *reflection* of essence in (it) *itself*".***

We have reviewed only a few of the questions dealt with in Lenin's *Philosophical Notebooks*. It is clear, however, that they are of tremendous importance for a deeper study of Marxist-Leninist philosophy.

On the Significance of Militant Materialism

This is Lenin's last philosophical work, written by him in 1922 in the form of a letter to the editorial board of the magazine *Pod Znamenem Marxizma* (*Under the Banner of Marxism*) which had just been founded. It is rightly regarded as Lenin's philosophical testament.

The title itself indicates that it is a brilliant exposition of militant materialism, a model of genuine Leninist partisanship. A keynote running through the whole work is Lenin's demand for a merciless exposure of the "graduated flunkeys of clericalism" under whatever mask they disguise themselves. This militant programme of struggle against reactionary bourgeois philosophy is of great importance for exposing the reactionary philosophical trends now fashionable in the West.

* *Ibid.*, pp. 92, 133-34.
** *Ibid.*, p. 152.
*** *Ibid.*, p. 133.

Lenin set the magazine the task of becoming an organ of militant materialism, conducting untiring atheistic propaganda and an untiring atheist fight.* It is in this article that Lenin formulated his well-known proposition that one should approach religious believers "in this way and in that way, so as to interest them, rouse them from their religious torpor, stir them up from the most varied angles, and by the most varied methods, and so forth".**

Lenin gives here a noteworthy criticism of bourgeois "freedom" and "democracy", which, he says, "is nothing but the freedom to preach that which is to the advantage of the bourgeoisie to preach, namely, the most reactionary ideas, religion, obscurantism, defence of the exploiters, etc."***

Lenin sets the task of creating a militant alliance of philosophers and natural scientists. "The natural scientist," he writes, "must be a modern materialist, a conscious adherent of the materialism which is represented by Marx, i.e., he must be a dialectical materialist."**** This demand of Lenin's is of great importance for the philosophical generalisation of the data supplied by modern natural science. In this connection Lenin once again lays stress on the idea, already known to our readers, that "it is precisely the sharp upheaval which modern natural science is undergoing that very often gives rise to reactionary philosophical schools and minor schools, trends and minor trends".***** An alliance of Marxist philosophers and natural scientists is essential for combating these idealist philosophical "schools". For, as Lenin points out, "unless it has a solid philosophical foundation, no natural science and no materialism can hold its own in the struggle against the onslaught of bourgeois ideas and the restoration of the bourgeois world outlook."******

Guided by Lenin's directives, the Soviet Communist Party has put forward in its Programme the elaboration of the philosophical problems of natural science as an urgent task. Events have fully confirmed the correctness of Lenin's ideas. They are a guiding star in the ideological struggle today.

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* See Lenin, *Marx-Engels-Marxism,* p. 571.
** *Ibid.*, p. 572.
*** *Ibid.*, p. 575.
**** *Ibid.*, p. 576.
***** *Ibid.*
****** *Ibid.*

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We have come to the end of our talks. We have examined a number of important, sometimes complex but always interesting problems. What have you gained from their study? Have they enlarged your horizon, has your mind been enriched by the achievements of human thought? You will certainly agree that this is so! Nevertheless, the significance of studying Marxist philosophy does not lie in this alone.

As we have already seen, the roots of Marxist philosophy extend into life, reality, practice. It is a well-tried compass, a guide in everyday life and activity.

Bound up with the study of Marxist philosophy, with mastery of the scientific world outlook, is the optimism of the working people, their unshakable confidence in a happy life for all people throughout the world. And this faith is not thoughtless or passive. On the contrary it is a confidence that springs from a deep knowledge of the universal laws of social development discovered by Marx, Engels and Lenin.

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